

LUFKIN

STEEL TAPES

WOVEN TAPES

TAPE-RULES

SPRING JOINT
BOXWOOD RULES

LUMBER RULES

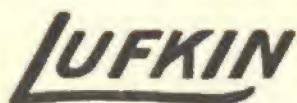
MISC. RULES Etc.

PRECISION TOOLS

ALPHABETICAL
NUMERICAL INDEX

GENERAL
CATALOG

12-B



GENERAL CATALOG

12-B

STEEL TAPES

Tape Accessories

WOVEN TAPES

TAPE-RULES

SPRING JOINT & BOXWOOD RULES

Aluminum Rules. Boxwood and Other Folding Wood Rules

LUMBER RULES

Board Rules. Log Rules. Log Calipers. Boot Calks, Etc.

MISCELLANEOUS RULES, ETC.

Glass Boards, Rules and Squares. Flat Wood, Yard and
Meter Sticks. Tailors Squares, Rules and Tapes.
Folding and One-Piece Metal Rules.

PRECISION TOOLS

Micrometers. Combination and Other Squares.
Calipers. Dividers. Steel Scales.
Gages: Depth, Thickness, Surface, Telescoping, Radius, Etc.

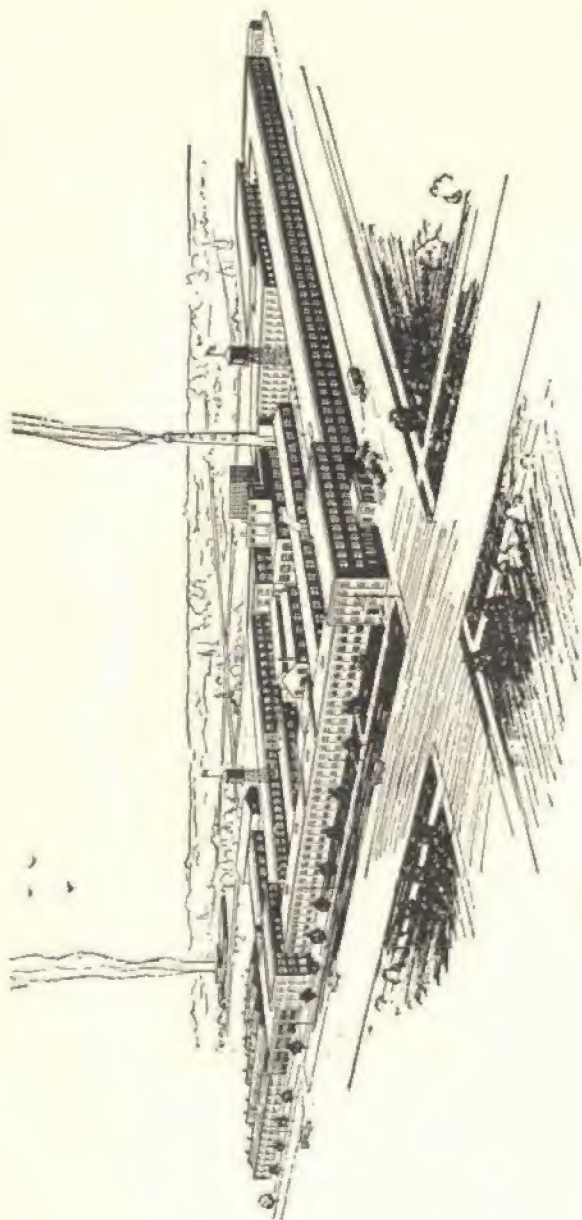
THE LUFKIN RULE Co.

SAGINAW, MICHIGAN, U. S. A.

NEW YORK: 106-110 Lafayette St.

Canadian Factory

THE LUFKIN RULE Co. OF CANADA, LTD.
WINDSOR, ONT.



PLANT OF

THE *LUKIN* RULE Co.

SAGINAW, MICHIGAN, U.S.A.

Introduction

OUR product is Measuring Devices. In their manufacture this Company has specialized for fifty years. By steady growth it has become the world's largest maker of such goods. This position is merited by the high quality of the product, the progressive policies of the house, and its uniformly fair and considerate treatment of the consumer and the trade.

In the development of many of its products this Company has been the pioneer. Today, as through its whole history, it is the leader in the noteworthy improvements in its field. Its goods have world-wide distribution and are the recognized standard of accuracy wherever measurements are taken.

THE LUFKIN RULE CO.

Section One

LUFKIN

STEEL MEASURING TAPES

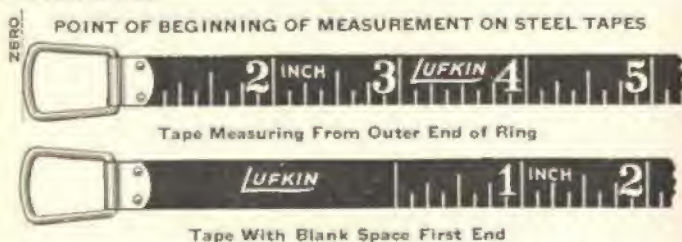
THE most complete assortment of Steel Tapes on the market is presented in this Catalog. These Tapes are universally recognized as the standard of accuracy and highest quality in every respect.

As heretofore, we now catalog in all usual widths and graduations Steel Tapes in "Nubian" Finish. These Tapes have raised lines and figures in the natural steel over a background which has a dead black finish, hence the name "Nubian." This finish wears and looks well.

With this Catalog we introduce our new Tape, the Chrome Face Steel Tape. These are genuine Steel Tapes, chrome plated, with jet black markings in sharp contrast to the satin, chrome-white surface. They are both easy to read and durable, resist rust, and are extra strong. For further details on Chrome Face Tapes and listings of the patterns now offered see pages 62-A to 62-L. Other widths, graduations and patterns will steadily be added.

"Nubian" Finish and Chrome Face Steel Tapes have *Instantaneous* Readings, an improved method of numbering, which we originated. It is the last preceding foot number repeated at each inch or tenth throughout the Tape, in small yet easily read figures. This keeps the total reading directly before the eye, eliminates the chance of error in running back to the last foot, and saves time. The same system is used on our metric Tapes.

In connection with all Measuring Tapes the term "English," wherever used in this Catalog, designates feet and inches. "Graduated 12ths" is another term in common use meaning the same thing. As used through this Catalog, suffix "E" indicates English, suffix "M" metric. Tapes marked English only carry no suffix on stock number. Those marked metric only are designated by letter "M," those marked metric and English as "ME." Suffix "D" indicates Tapes in engineers measurement, i.e., marked feet, 10ths and 100ths of feet.



Long Steel Measuring Tapes Marked One Side Measure from Outer End of Ring, Except: Engineers Pattern Tapes. (Measure from end of tape.)

Chain Tapes. (Regularly made in two ways as catalogued.)

Long Steel Measuring Tapes Marked Both Sides Have Blank Space First End, Except: Engineers Pattern Tapes. (Measure from end of tape.)

Tapes Marked Links On Back.

"Artisan" and Pocket Steel Tapes With Ring Have Blank Space First End.

(The above are standard practices. However, any of our Steel Tapes, except Pocket Tapes, will be furnished either way without extra charge.)

Note: For information on tension and temperature standards, standardization, etc., see page 64.



"Reliable" Steel Tapes

No. 200 Series. $\frac{3}{8}$ Inch Wide.

Of Finest Construction, a Superior Article Throughout

Suitable for all general measuring work. The "Reliable" Tape is of best design and construction, with all materials specially selected.

Line is clearly marked, has "Nubian" Finish and "Instantaneous" Readings, aids to accurate and quick reading. Case of brown, selected, genuine leather, closely hand-stitched, with substantial steel liner heavily plated. The winding handle is double-folding flush pattern, opened by pressing on opposite side. It has extension finger hold, affording most firm grip. Mountings nickel plated. Measurements guaranteed accurate.

Marked One Side Only

Feet, inches and 8ths.	No.	200	201	203	204	205	206	207
Feet, 10ths and 100ths ft.	No.	200D	201D	203D	204D	205D	206D	207D
Length, feet.		25	33	50	66	75	100	150
Weight each, ozs.		9	10	13	15	18	21	32
Price, each.		\$6.10	\$7.00	\$9.50	\$12.00	\$13.80	\$16.50	\$24.20

Marked Metric and English

One Side First Decimeter in MM., Balance in CM., Other Side Feet, Inches and 8ths.

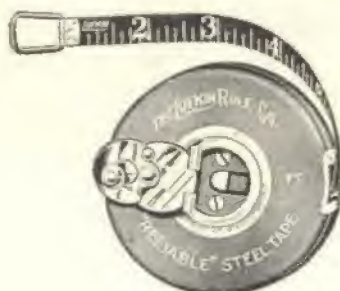
No.	200 $\frac{1}{2}$ ME	200ME	201ME	203ME	204ME	205ME	205 $\frac{1}{2}$ ME	206ME	207ME
Length, meters.	5	7 $\frac{1}{2}$	10	15	20	22	25	30	50
Length, feet.	15	25	33	50	66	75	82	100	164
Price, each.	\$6.20	\$6.60	\$7.70	\$10.60	\$13.60	\$15.40	\$16.50	\$18.70	\$29.70

Marked 100ths of Feet and Metric

One Side Feet, 10ths and 100ths; Other Side Metric (as detailed above).

No.	203DM	206DM
Length.	50 ft. (15 meters)	100 ft. (30 meters)
Price, each.	\$10.00	\$18.70

NOTES: Feet, Inches and 16ths—"Reliable" Tapes so marked, 5% extra.
Links on Back—Furnished at small extra charge. Specify as 200L.
Wider "Reliable" Tapes—See pages 6 and 7.
Metric Only—"Reliable" Tapes so marked, prices same as feet and inches.



"Reliable" Steel Tapes

No. 300 Series. $\frac{1}{2}$ Inch Wide.

A Tape of the Highest Grade and Extra Durability

Like all "Reliable" Tapes, this one is a superior article throughout, made from most choice materials and by the best methods known.

Being $\frac{1}{2}$ inch wide it is extra durable, and accommodates large, most legible figures. The line has "Instantaneous" Readings and "Nubian" Finish. Case of brown, selected genuine leather, closely hand-stitched, with heavily plated substantial steel liner. The double-folding flush handle is opened by pressing on opposite side and has extension finger hold, giving firm grip for winding. Mountings nickel plated. Measurements guaranteed accurate.

Marked One Side Only

Feet, inches and 8ths.	No. 300	301	303	304	305	306
Feet, 10ths and 100ths ft.	No. 300D	301D	303D	304D	305D	306D
Length, feet.....	25	33	50	66	75	100
Weight each, ozs.....	11	13	16	20	23	27
Price, each.....	\$6.60	\$7.70	\$10.60	\$13.60	\$15.40	\$18.70

Marked Metric and English

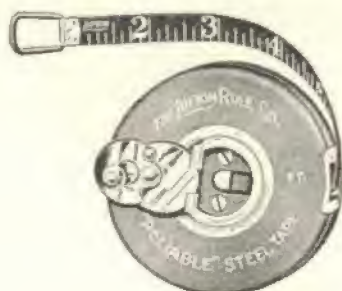
One Side First Decimeter in MM., Balance in CM., Other Side Feet, Inches and 8ths.

No.....	300 $\frac{1}{2}$ ME	300ME	301ME	303ME	304ME	305ME	305 $\frac{1}{2}$ ME	306ME
Length, meters	5	7 $\frac{1}{2}$	10	15	20	22	25	30
Length, feet...	15	25	33	50	66	75	82	100
Price, each....	\$6.60	\$7.20	\$8.50	\$11.70	\$15.00	\$17.10	\$18.50	\$20.90

NOTES: Feet, Inches and 16ths—"Reliable" Tapes so marked, 5% extra.

Links on Back—Furnished at small extra charge. Specify as 300L.

Metric Only—"Reliable" Tapes so marked, prices same as feet and inches.



"Reliable" Steel Tapes (Extra Wide)

Nos. 343 and 353 Series

Widest of All Our Steel Tapes

While of same thickness as our other "Reliable" Tapes, these lines being $\frac{5}{8}$ and $\frac{3}{4}$ inch wide, are extra durable, and have larger, more prominent figures. They are of the very finest materials and construction throughout.

Lines have "Instantaneous" Readings and "Nubian" Finish. Cases of brown, selected, genuine leather, closely hand-stitched, and with plated steel liner. The winding handle is double-folding flush pattern, opened by pressing on opposite side. It has extension finger hold, giving most firm grip. Mountings nickel plated. Measurements guaranteed accurate.

With Five-Eighths Inch Tape Line Marked One Side Only

Feet, inches and 8ths.....No.	341	343	345	346
Length, feet.....	33	50	75	100
Weight each, ozs.....	15	19	27	31
Price, each.....	\$9.30	\$12.60	\$18.40	\$22.50

With Three-Quarters Inch Tape Line Marked One Side Only

Feet, inches and 8ths.....No.	353	356
Length, feet.....	50	100
Weight each, ozs.....	22	33
Price, each.....	\$14.20	\$25.30

NOTES: Metric and English—All above tapes can be furnished so marked at extra charge.

Links on Back—Furnished at small extra charge. Specify as 343L or 353L.

ROSE TOOLS, INC.



"Reliable Junior" Steel Tapes

No. 100 Series. $\frac{1}{4}$ Inch Wide.

A Miniature "Reliable"

The Finest, Light Weight, Long Steel Tape Made

While this is a light weight tape, $\frac{1}{4}$ inch wide, it will give good service, and is most compact and convenient to carry in vest pocket. Case of the 25 foot is but $2\frac{1}{2}$ inches in diameter and that of the 50 foot, $2\frac{3}{4}$ inches. The "Junior" is about one-half the weight of the $\frac{3}{8}$ inch "Reliable," and embodies its improved features. It is of such neat and fine appearance that it has become popular for gift uses also.

The line is distinctly marked and has "Instantaneous" Readings and "Nubian" Finish. Case is of brown, selected, genuine leather, closely hand-stitched, and has plated steel liner. Double-folding flush winding handle is opened by pressing on opposite side and has extension finger hold. Mountings nickel plated. Measurements guaranteed accurate.

Marked One Side Only

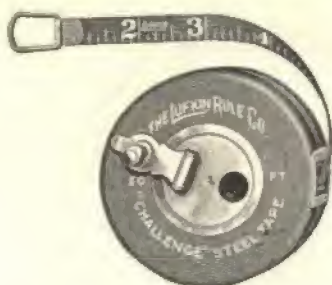
Feet, inches and 16ths.....	No.	100	103
Feet, 10ths and 100ths ft.....	No.	100D	103D
Length, feet.....		25	50
Weight each, ozs.....		5	7
Price, each.....		\$5.70	\$8.50

Marked Metric and English

One Side First Decimeter in MM., Balance in CM.,
Other Side Feet, Inches and 16ths.

No.....	101ME	103ME
Length, meters.....	10	15
Length, feet.....	33	50
Price, each.....	\$7.00	\$9.00

NOTE: Metric Only—"Reliable Jr." Tapes so marked, prices same as feet and inches.



"Challenge" Steel Tapes

No. 260 Series. $\frac{3}{8}$ Inch Wide.

The Standard, High Grade, General Purpose Steel Tape

The "Challenge" has become the recognized standard steel tape in leather case through its many years of steady, dependable service in construction work and many other fields. It stands up well even in hard and continuous use.

Line of highest grade tape steel, distinctly marked, and with "Nubian" Finish and "Instantaneous" Readings, aids to accurate and quick reading. Case of brown, selected, genuine leather, closely hand-stitched, and with substantial and heavily plated steel liner. Folding flush handle is opened by pressing pin on opposite side. Mountings nickel plated. Measurements guaranteed accurate.

Marked One Side Only

Feet, inches and 8ths	No. 260	261	263	264	265	266	267
Feet, 10ths and 100ths ft.	No. 260D	261D	263D	264D	265D	266D	267D
Length, feet	25	33	50	66	75	100	150
Weight each, ozs.	8	9	11	14	17	21	31
Price, each	\$5.40	\$5.90	\$6.60	\$8.30	\$8.60	\$11.30	\$18.70

Marked Metric and English

One Side First Decimeter in MM., Balance in CM., Other Side Feet, Inches and Sths.

No.	260 $\frac{1}{2}$ ME	260ME	261ME	263ME	264ME	265ME	265 $\frac{1}{2}$ ME	266ME	267ME
Length, meters	5	7 $\frac{1}{2}$	10	15	20	22	25	30	50
Length, feet	15	25	33	50	66	75	82	100	164
Price, each	\$5.10	\$6.00	\$6.60	\$7.70	\$9.70	\$10.30	\$11.30	\$13.50	\$23.10

Marked 100ths of Feet and Metric

One Side Feet, 10ths and 100ths; Other Side Metric (as detailed above).

No.	263DM	266DM
Length	50 ft. (15 meters)	100 ft. (30 meters)
Price, each	\$7.70	\$13.50

NOTES: Feet, Inches and 16ths—"Challenge" Tapes so marked, 5% extra.

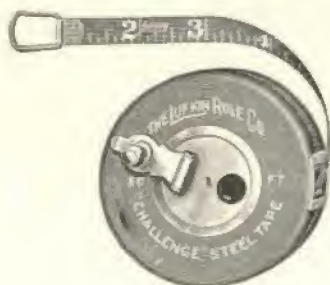
Stainless Steel "Challenge" Tapes—See page 11.

$\frac{1}{2}$ -Inch "Challenge" Tapes—See page 10.

Links on Back—Furnished at small extra charge. Specify as 260L.

Metric Only—"Challenge" Tapes so marked, prices same as feet and inches.

ROSE TOOLS, INC.



"Challenge" Steel Tapes

No. 360 Series. $\frac{1}{2}$ Inch Wide.

Extra Durable and Suitable for Heavy Duty,
as Highway Work, and Around Mills, Etc.

Same as the $\frac{3}{8}$ inch "Challenge," but with line $\frac{1}{2}$ inch wide. The extra width makes this a somewhat sturdier tape and it has larger figures.

Line of highest grade tape steel, distinctly marked. It has "Instantaneous" Readings and "Nubian" Finish, aids to accurate and quick reading. Case of brown, selected, genuine leather, closely hand-stitched and with substantial plated steel liner. Folding flush handle is opened by pressing pin on opposite side. Mountings nickel plated. Measurements guaranteed accurate.

Marked One Side Only

Feet, inches and 8ths.....	No. 360	361	363	364	365	366	367
Feet, 10ths and 100ths ft.....	No. 360D	361D	363D	364D	365D	366D	367D
Length, feet.....	25	33	50	66	75	100	150
Weight each, ozs.....	9	11	14	17	21	25	38
Price, each.....	\$6.30	\$6.60	\$7.50	\$9.20	\$9.90	\$12.50	\$20.90

Marked Metric and English

One Side First Decimeter in MM., Balance in CM., Other Side Feet, Inches and 8ths.								
No.....	360 $\frac{1}{2}$ ME	360ME	361ME	363ME	364ME	365ME	365 $\frac{1}{2}$ ME	366ME 367ME
Length, meters.....	5	7 $\frac{1}{2}$	10	15	20	22	25	30 50
Length, feet....	15	25	33	50	66	75	82	100 164
Price, each.....	\$5.50	\$6.90	\$7.40	\$8.60	\$10.60	\$11.60	\$12.90	\$14.70 \$24.80

NOTES: Feet, Inches and 16ths—"Challenge" Tapes so marked, 5% extra.

Stainless Steel "Challenge" Tapes—See page 11.

Links on Back—Furnished at small extra charge. Specify as 360L.

Metric Only—"Challenge" Tapes so marked, prices same as feet and inches.



Stainless Steel Tapes ("Challenge" Pattern)

Nos. S-260 and S-360 Series.

Most Suitable for Use Where Rust and Corrosion Cause Much Trouble

These are standard weight lines of Stainless Steel, rust-proof and non-corrosive, with cases identical with the "Challenge." We use only Genuine Stainless Steel of the particular analysis found best for measuring tapes. In temper it approaches standard tape steel. It holds its shape, and hence its accuracy, better than other rust-proof tape materials.

The lines are clearly marked and have "Instantaneous" Readings and "Nubian" Finish. The cases are of brown, selected, genuine leather, closely hand-stitched, and have substantial plated steel liners. Folding flush handle is opened by pressing pin on opposite side. Mountings nickel plated. Measurements guaranteed accurate.

With Three-Eighths Inch Stainless Tape Line, Marked One Side Only

Feet, inches and 8ths. No.	S-260	S-263	S-265	S-266
Feet, 10ths and 100ths ft. . . No.	S-260D	S-263D	S-265D	S-266D
Length, feet.	25	50	75	100
Price, each.	\$7.30	\$10.70	\$14.80	\$19.50

With Three-Eighths Inch Stainless Tape Line, Marked Metric and English

One Side First Decimeter in MM., Balance in CM., Other Side Feet, Inches and 8ths.

No.	S-260ME	S-263ME	S-265½ME	S-266ME
Length, meters.	7½	15	25	30
Length, feet.	25	50	82	100
Price, each.	\$7.90	\$12.00	\$18.40	\$22.20

With One-Half Inch Stainless Tape Line, Marked One Side Only

Feet, inches and 8ths. No.	S-360	S-363	S-365	S-366
Feet, 10ths and 100ths ft. . . No.	S-360D	S-363D	S-365D	S-366D
Length, feet.	25	50	75	100
Price, each.	\$8.50	\$12.30	\$17.40	\$22.40

With One-Half Inch Stainless Tape Line, Marked Metric and English

One Side First Decimeter in MM., Balance in CM., Other Side Feet, Inches and 8ths.

No.	S-360ME	S-363ME	S-365½ME	S-366ME
Length, meters.	7½	15	25	30
Length, feet.	25	50	82	100
Price, each.	\$9.20	\$13.80	\$21.60	\$25.30

NOTES: ¾ Inch Stainless Steel Lines can also be supplied in "Reliable," and "Rival" Cases, and in Nos. 283 and 1283 series Frames.

½ Inch Stainless Steel Lines can also be supplied in "Reliable" Cases and in 1293 series Frames.

Feet, Inches and 16ths—Any above stainless steel tapes so marked, 5% extra.

ROSE TOOLS, INC.



"Challenge Junior" Steel Tapes

No. 1260 Series. $\frac{1}{4}$ Inch Wide.

Ideal for Those Who Want a Smaller, Lighter Weight "Challenge"

A counterpart of the "Challenge," but about one-half its weight. Well built, and a very popular vest pocket steel tape, diameter of the 25 foot case being but $2\frac{1}{2}$ and of the 50 foot, $2\frac{3}{4}$ inches.

Line of highest grade tape steel, clearly marked, and with "Instantaneous" Readings and "Nubian" Finish, aids to accurate and quick reading. Case of brown, selected, genuine leather, closely hand-stitched, and with plated steel liner. Folding flush handle is opened by pressing pin on opposite side. Mountings nickel plated. Measurements guaranteed accurate.

Marked One Side Only

Feet, inches and 16ths.....No.	1260	1263
Feet, 10ths and 100ths ft.....No.	1260D	1263D
Length, feet.....	25	50
Weight each, ozs.....	4	7
Price, each.....	\$5.20	\$6.30

Marked Metric and English

One Side First Decimeter in MM., Balance in CM.,
Other Side Feet, Inches and 16ths.

No.....	1261ME	1263ME
Length, meters.....	10	15
Length, feet.....	33	50
Price, each.....	\$6.20	\$7.40

NOTE: Metric Only—"Challenge Jr." Tapes so marked, prices same as feet and inches.



"Rival" Steel Tapes

No. 240 Series. $\frac{3}{8}$ Inch Wide.

Metal Case Well Withstands the Action of Grease and Grit

The "Rival" is a general purpose steel tape in metal case. We recommend its use where case comes much in contact with tools, with metal, oil or abrasives. Among other places it is a popular tape for tool chests and around sheet and tube mills.

Line of highest grade tape steel, clearly marked, and with "Instantaneous" Readings and "Nubian" Finish. Well finished metal case, heavily nickel plated, and with knurled edge, affording firm grip. Folding flush handle opened by pressing pin on opposite side. Measurements guaranteed accurate.

Marked One Side Only

Feet, inches and 8ths.....	No.	240	241	243	244	245	246
Feet, 10ths and 100ths ft.....	No.	240D	241D	243D	244D	245D	246D
Length, feet.....		25	33	50	66	75	100
Weight each, ozs.....		8	9	11	14	15	20
Price, each.....		\$5.00	\$5.30	\$6.00	\$7.60	\$8.00	\$10.30

Marked Metric and English

One Side First Decimeter in MM., Balance in CM., Other Side Feet, Inches and 8ths.							
No.....	240 $\frac{1}{2}$ ME	240ME	241ME	243ME	244ME	245 $\frac{1}{2}$ ME	246ME
Length, meters.....	5	7 $\frac{1}{2}$	10	15	20	22	25
Length, feet....	15	25	33	50	66	75	82
Price, each.....	\$4.80	\$5.50	\$6.10	\$7.10	\$9.10	\$9.60	\$10.50

"Rival Junior" Steel Tapes

No. 1240 Series. $\frac{1}{4}$ Inch Wide.

Of same pattern as the "Rival" described above, but narrower and of about one-half its weight. Diameter of case of the 25-foot is $2\frac{1}{4}$ and of the 50 foot $2\frac{1}{16}$ inch. Line has "Instantaneous" Readings and "Nubian" Finish. Nickel plated metal case with knurled edge. Folding flush handle opened by push pin. Measurements guaranteed accurate.

Marked One Side Only

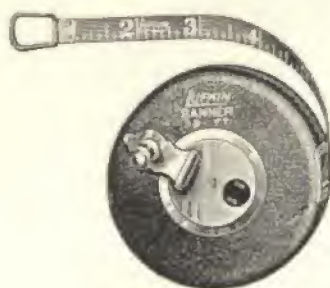
Feet, inches and 16ths.....	No.	1240	1243
Feet, 10ths and 100ths ft.....	No.	1240D	1243D
Length, feet.....		25	50
Weight each, ozs.....		4	6
Price, each.....		\$4.70	\$5.80

Marked Metric and English

One Side First Decimeter in MM., Balance in CM., Other Side Feet, Inches and 16ths.			
No.....	1241ME	1243ME	
Length.....	10 meters (33 feet)	15 meters (50 feet)	
Price, each.....	\$5.90	\$6.90	

NOTES: "Rival" Tapes in Feet, Inches and 16ths—5% extra.
Metric Only—"Rival" or "Rival Jr." Tapes—5% extra.

ROSE TOOLS, INC. me as feet and inches.



"Banner" Steel Tapes

No. 550 Series. $\frac{3}{8}$ Inch Wide.

A Medium Priced, Dependable and Attractive Steel Tape

The "Banner" introduced steel tape accuracy to many who had always used woven tapes. It remains the best of medium priced steel tapes on the market, and its durability and good appearance still keep it a popular hardware item.

Standard weight line of high grade tape steel, distinctly marked. It has "Instantaneous" Readings and "Nubian" Finish. Case of mottled, black "Keratol," hand-stitched. This is a very durable material, of good appearance. Case has substantial, plated, steel liner. Folding flush handle is opened by pressing pin on opposite side. Mountings nickel plated. Measurements guaranteed accurate.

Marked One Side Only

Feet, inches and 8ths. No.	550	553	555	556
Feet, 10ths and 100ths ft. No.	550D	553D	555D	556D
Length, feet.	25	50	75	100
Weight each, ozs.	7	11	17	19
Price, each.	\$4.20	\$5.20	\$6.80	\$8.60

Marked Metric and English

One Side First Decimeter in MM., Balance in CM., Other Side Feet, Inches and 8ths.

No.	551ME	553ME	555 $\frac{1}{2}$ ME	556ME
Length, meters.	10	15	25	30
Length, feet.	33	50	82	100
Price, each.	\$5.30	\$6.20	\$9.20	\$10.60

NOTES: Feet, Inches and 16ths—"Banner" Tapes so marked, 5% extra.

Links on Back—Furnished at small extra charge. Specify as 550L.

Metric Only—"Banner" Tapes so marked, prices same as feet and inches.



"Universal" Steel Tapes

No. 540 Series. $\frac{3}{8}$ Inch Wide.

Lowest Priced Steel Tape, Yet Accurate and Serviceable

The accuracy obtainable only in a steel tape has become more and more essential in many lines of work. No carpenter or other mechanic can now afford to be without it. The popular priced "Universal" has brought an accurate long steel tape well within the reach of all mechanics and thousands of others. Therefore it has displaced many woven tapes and has become a standard stock article throughout the hardware trade.

A $\frac{3}{8}$ inch wide, standard weight, steel tape, clearly marked, with "Instantaneous" Readings and "Nubian" Finish. The metal lined case is covered with mottled, black "Keratol," a good looking and extra durable material. It has $\frac{3}{16}$ inch wide, flat, flush, nickel plated edge band. Folding flush handle is opened by pressing pin on opposite side. Mountings nickel plated. Measurements guaranteed accurate.

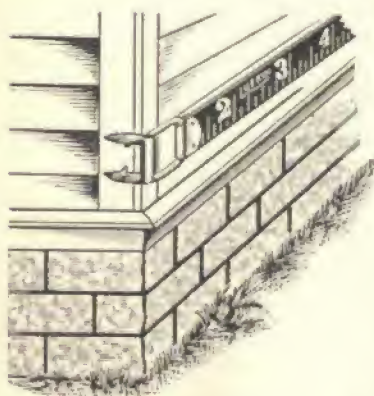
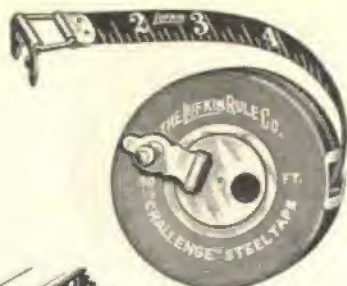
Marked One Side Only

Feet, inches and 8ths. No.	540	543	545	546
Length, feet.	25	50	75	100
Weight each, ozs.	6	10	15	17
Price, each.	\$3.10	\$3.50	\$4.80	\$5.90

NOTES: Links on Back—Furnished at small extra charge. Specify as 540L.

Metric and English—"Universal" Steel Tapes so marked can be supplied at an extra charge. Specify as No. 541ME-10 meter, 543ME-15 meter, 544ME-20 meter, 545½ME-25 meter, 546ME-30 meter.

Metric Only—"Universal" Steel Tapes so marked, prices same as feet and inches.



Position of Hook When Not in Use

Hook-Ring on $\frac{3}{8}$ Inch Wide Steel Tapes

(PATENTED)

Can Be Supplied on Any of Our $\frac{3}{8}$ Inch Wide Steel Tapes.

Enables One Man to Take Many Measurements Unassisted

This Hook-Ring will hold tape at end of a board, corner of a building, on to metal sheets, pipe, and many other things, as here illustrated. It is a small, yet sturdy, 2-pronged, folding steel hook, permanently affixed to tape-ring, not detachable. It is readily folded flat against the tape-ring, out of the way, and then will not catch objects or prevent tape line being fully wound into the case.

Zero falls at inside of open hook. This hook-ring has two prongs, $\frac{3}{4}$ inch apart, each prong having an anchor spur, hence it takes a firm, square hold on the article to be measured. The prongs grip when tape is under tension, also prevent losing hold by side sway; yet the tape releases itself when tension is released. Hook does not flop loosely, but has friction, holding it in position both when open and closed. When folded it does not hinder use of the tape without hook.

Hook-Ring on Any of Our $\frac{3}{8}$ Inch Steel Tapes \$0.20 Extra Per Tape

(Specify by prefixing "H" to stock number of tape,
as "H-263 Challenge," "H-543 Universal," etc.)

NOTE: Detachable Steel Tape Hooks—See page 52.

Hook-Ring for Woven Tapes—See page 67.



"Challenge" Steel Tapes with Diameter Measure

Applied to Circumference Give at Direct Reading
Diameter as Well as Circumference

A "Challenge" pattern tape marked one side standard feet, inches and 8ths, "Instantaneous" Readings, other side diameter equivalents of circumferences in diameter feet and inches, with extra diameter inch before zero subdivided to 64ths. With this tape applied to the circumference of any cylindrical body one can read directly not only the circumference, but the diameter down to 64ths of an inch. Very convenient about pulleys, shafting, piping, columns, tanks, etc.

Three-eighths inch wide, highest grade steel line in "Nubian" Finish. Blank space first end. Case of brown, selected, genuine leather, hand-stitched, with plated steel liner. Folding flush handle opened by pressing pin on opposite side. Mountings nickel plated. Measurements guaranteed accurate.

Marked Standard Linear Measure One Side, Diameter Measure Other Side

	Length	Wt. Each	Price, Each
No. 261P	33 feet (10½ dia. feet).....	9 ozs.	\$7.70
No. 263P	50 feet (15½ dia. feet).....	11 ozs.	9.30

"Challenge" Steel Tapes in Consecutive Inches

For Any Work Requiring Long Measurements Expressed in Inches

Standard pattern "Challenge" Tapes but with inches numbered consecutively, i.e., 25 foot tape has inches numbered 1 to 300, 50 foot tape 1 to 600. Three-eighths inch wide high grade steel tape, distinctly marked and with "Nubian" Finish. Case of brown, selected, genuine leather, hand-stitched and with plated metal liner. Folding flush handle opened by pressing pin on opposite side. Mountings nickel plated. Measurements guaranteed accurate.

Marked One Side Only, Consecutive Inches to 8ths of Inches

	Length	Wt. Each	Price, Each
No. 260C	300 inches (25 feet).....	8 ozs.	\$7.10
No. 263C	600 inches (50 feet).....	11 ozs.	8.60

(We can supply, at extra charge, tapes marked consecutive inches to 8ths one side, feet, inches and **ROSE TOOLS, INC.**



"Challenge" Tree Tapes

Give at Direct Reading Diameter as Well as Circumference of the Tree

Used by the United States Forest Service, as well as by private foresters, and in ranger schools, etc. Three-eighths inch wide highest grade steel line in "Nubian" Finish. Marked on front side standard feet, 10ths and 100ths of feet, "Instantaneous" Readings; other side diameter equivalents of circumferences in diameter feet, inches and 10ths of inches. First end has blank space and is fitted with tree peg or spike, which folds down for convenience in carrying. Case same as the "Challenge," of brown, selected, genuine leather, with plated steel liner and with folding flush handle opened by push pin.

	Length	Wt. Each	Price, Each
No. 261TP	33 feet (10 $\frac{1}{2}$ dia. feet).....	10 ozs.	\$ 9.90
No. 263TP	50 feet (15 $\frac{1}{12}$ dia. feet).....	12 ozs.	12.50



"Artisan" Tree Tape

A Foresters 20-Foot Steel Tape in Metal Case

This item is also standard equipment of United States Foresters. The $\frac{3}{8}$ inch wide steel line has "Nubian" Finish. It is marked on front side 20 feet in standard feet, 10ths and 100ths of feet, "Instantaneous" Readings; on the back in diameter equivalents of circumferences in consecutive diameter inches and 10ths of inches up to 76 diameter inches. Blank space first end. Line is fitted with a formed metal hook for catching bark of trees. Put up in metal case, heavily nickel plated, with knurled edge affording firm grip. Hole in edge of case into which point of hook fits for protection in carrying. Folding flush handle is opened by pressing pin on opposite side.

No. 120TP	Length, 20 feet (76 dia. inches)	Wt. each, 6 ozs.	Each \$5.00
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NOTE: For Biltmore or Forest Cruiser Sticks, see page 117.



Engineers Pattern (Standard Weight) Steel Tapes

(Tape Thickness—Approximately .012 Inch)

No. 233 Series. $\frac{1}{4}$ Inch Wide.

This is a sturdy tape line and case, well designed for engineering, surveying, etc. The line is of the old standard engineering tape width and thickness, $\frac{1}{4}$ inch by approximately .012 inch, most flexible yet durable. With its leather case it is the most compact of engineers tapes. For carrying many prefer case to reel or frame.

Line is of highest grade tape steel, distinctly marked, with zero point at extreme end of tape. It is readily removed from case and is supplied with two detachable finger rings of improved pattern. It has "Instantaneous" Readings and "Nubian" Finish. Measurements guaranteed accurate.

The case is narrow, of brown, selected, genuine leather, closely hand-stitched, with substantial plated steel liner. Folding flush handle is opened by pressing pin on opposite side. Mountings nickel plated.

Marked One Side Only

Feet, inches and 8ths.....	No.	233	235	236
Feet, 10ths and 100ths ft.	No.	233D	235D	236D
Length, feet.....		50	75	100
Weight each, ozs.....		17	22	25
Price, each.....		\$9.70	\$13.80	\$17.20

Marked Metric and English

One Side First Decimeter in MM., Balance in CM., Other Side Feet, Inches and 8ths.				
No.....	233ME	234ME	235 $\frac{1}{2}$ ME	236ME
Length, meters.....	15	20	25	30
Length, feet.....	50	66	82	100
Price, each.....	\$10.80	\$13.90	\$16.40	\$19.40

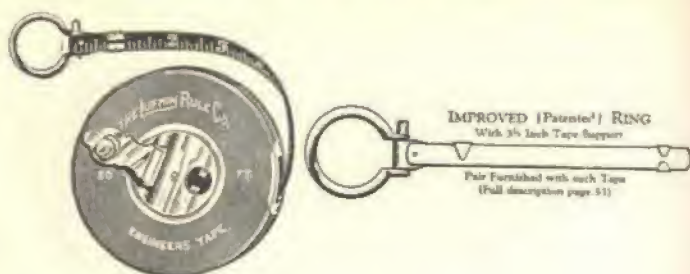
NOTES: Other Assemblies—For same line on metal frame see pages 24 and 25, on "Wolverine" reel see page 21.

Stainless Steel—Above tapes can be supplied in stainless steel at an extra price.

Metric Only—Above tapes so marked, prices same as feet and inches.

"DM" Graduation—Feet, 10ths and 100ths of feet one side, Metric on other side, supplied on any of the above and on any of our other Engineers Tapes shown on succeeding pages. Price: Same as tapes marked Metric and English.

ROSE TOOLS, INC.



Engineers Pattern (Extra Weight) Steel Tapes

(Tape Thickness—Approximately .015 Inch)

No. 233-X Series. $\frac{1}{4}$ Inch Wide.

An engineers sturdy tape and leather case, same as No. 233 series shown page 19, except line 25% heavier, giving extra durability. This tape also is very suitable for engineering and survey work, and convenient to carry.

Line of highest grade tape steel, distinctly marked, with zero point at extreme end of tape. It is readily removed from case and is supplied with two detachable finger rings of improved pattern. It has "Instantaneous" Readings and "Nubian" Finish. Measurements guaranteed accurate.

The case is narrow and of brown, selected, genuine leather, closely hand-stitched and with substantial plated steel liner. Folding flush handle is opened by pressing pin on opposite side. Mountings nickel plated.

Marked One Side Only

Feet, inches and 8ths.	No.	233-X	235-X	236-X
Feet, 10ths and 100ths ft.	No.	233D-X	235D-X	236D-X
Length, feet.		50	75	100
Weight each, ozs.		20	25	31
Price, each.		\$9.70	\$13.80	\$17.20

Marked Metric and English

One Side First Decimeter in MM., Balance in CM., Other Side Feet, Inches and 8ths.

No.	233ME-X	236ME-X
Length, meters	15	30
Length, feet.	50	100
Price, each.	\$10.80	\$19.40

NOTES: Other Assemblies—For same line on "Wolverine" reel see page 22, on frame see page 26.

Standard Weight—For standard weight engineers tapes in leather case, see page 19.



"Wolverine" (Standard Weight) Steel Tapes

(Tape Thickness—Approximately .012 Inch)

No. 1373 Series. $\frac{1}{4}$ Inch Wide.

An engineers pattern line on metal disk reel, especially popular with city engineers, and in construction and mine work. This line is of the old standard engineering tape width and thickness, $\frac{1}{4}$ inch by approximately .012 inch, most flexible yet durable. One side of reel is perforated to aid in clearing tape of dirt accumulation and in drying it out.

Line of highest grade tape steel, clearly marked, and has "Instantaneous" Readings and "Nubian" Finish. It is engineers style, i.e., measures from extreme end of tape, is removable from reel, and is supplied with two detachable finger rings of improved pattern. Measurements guaranteed accurate.

Disk reel substantially made of light weight rust-proof metal, with lock handle. This one-piece winding handle, turned over, engages cut-away in reel and locks the line at any point. This handle with its large knob and greater length gives good grip and extra leverage. Reel has adjustable leather strap handle, affording firm hold. Tape ring locks under a spring on reel, guarding against first end breakage.

Marked One Side Only

Feet, inches and 8ths No.	1373	1376	1377	1378	1379
Feet, 10ths and 100ths ft. No.	1373D	1376D	1377D	1378D	1379D
Length, feet	50	100	150	200	300
Weight each, ozs.	18	30	42	48	64
Price, each	\$12.90	\$22.00	\$32.60	\$44.00	\$65.10

Marked Metric and English

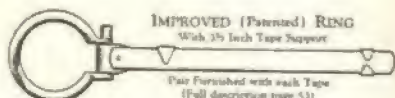
One Side First Decimeter in MM., Balance in CM., Other Side Feet, Inches and 8ths.			
No.	1373ME	1376ME	1377ME
Length, meters	15	30	50
Length, feet	50	100	164
Price, each	\$14.10	\$24.50	\$38.30

NOTES: Other Assemblies—For same line in leather case see page 19, on metal frame see pages 24 and 25.

Stainless Steel—Above tapes can be supplied with stainless steel line, at an extra price.

Metric Only—Above tapes so marked, prices same as feet and inches.

ROSE TOOLS, INC.



"Wolverine" (Extra Weight) Steel Tapes

(Tape Thickness—Approximately .015 Inch)

No. 1373-X Series. $\frac{1}{4}$ Inch Wide.

This is an engineers tape on metal reel and is exactly same as the "Wolverine" shown page 21, except having line 25% heavier, hence still more sturdy.

Line of highest grade tape steel, distinctly marked, with zero point at extreme end of tape. It is readily removed from reel and is supplied with two detachable finger rings of improved pattern. It has "Instantaneous" Readings and "Nubian" Finish. Measurements guaranteed accurate.

Substantial disk reel of light weight, rust-proof metal with one side perforated to aid in clearing the tape of dirt, etc., and in drying it out. Has lock handle, a one-piece winding handle which, turned over, engages cut-away in reel and locks the line at any point. This handle with its large knob and greater length gives good grip and extra leverage. Reel has adjustable leather strap handle, affording firm hold. Tape ring locks under a spring on reel, guarding against first end breakage.

Marked One Side Only

Feet, inches and 8ths	No. 1373-X	1376-X
Feet, 10ths and 100ths ft.	No. 1373D-X	1376D-X
Length, feet	50	100
Weight each, ozs.	23	37
Price, each	\$12.90	\$22.00

Marked Metric and English

One Side First Decimeter in MM., Balance in CM.,
Other Side Feet, Inches and 8ths.

No.	1373ME-X	1376ME-X
Length, meters	15	30
Length, feet	50	100
Price, each	\$14.10	\$24.50

NOTES: Other Assemblies—For same line in leather case see page 20, on metal frame see page 26.

Standard Weight—For standard weight "Wolverine" Tapes see page 21.



Engineers Heavy Steel Tapes on "Wolverine" Reel

(Tape Thickness—Approximately .020 Inch)

No. 1376-XX Series. $\frac{1}{4}$ Inch Wide.

A sturdy line of chain tape weight but fully subdivided throughout; preferred for work requiring both accuracy and extra durability.

Line is over 50% heavier than engineers "standard weight" tapes but graduated throughout in the same manner. It is of high grade tape steel, clearly marked, and has "Instantaneous" Readings and "Nubian" Finish. It has blank space at each end. Heavy metal clip or eye is riveted to each end, and a pair of rawhide thongs is furnished with each tape. Line is readily detachable from reel. Measurements guaranteed accurate.

Substantial disk reel of rust-proof metal, with extra large drum, long winding handle and large finger knob, all combining to give good grip, leverage and speed in winding. Has lock handle, a one-piece winding handle which, turned over, engages cut-away in reel and locks the line at any point. Reel has adjustable leather strap handle, affording firm hold, and is perforated on one side to aid in clearing the tape of dirt accumulation and in drying it out.

Marked One Side Only

Tapes Complete with Reel

Feet, 10ths and 100ths ft.	No. 1376D-XX	100 ft.	Wt. each $3\frac{3}{4}$ lbs.	Each \$24.50
Feet, inches and 8ths	No. 1376-XX	100 ft.	Wt. each $3\frac{3}{4}$ lbs.	Each 24.50

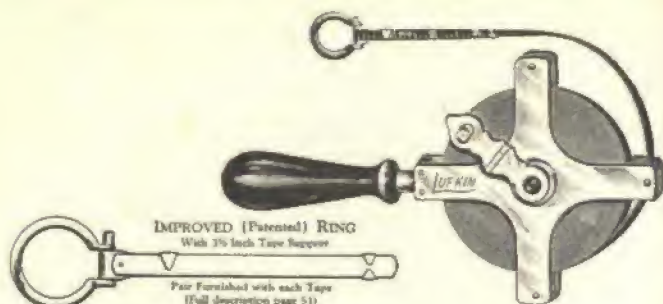
Tape Lines Only, without Reel, with Thongs

Feet, 10ths and 100ths ft.	No. 01376D-XX	100 ft.	Wt. each 2 lbs.	Each \$15.00
Feet, inches and 8ths	No. 01376-XX	100 ft.	Wt. each 2 lbs.	Each 15.00

NOTES: Other Assemblies—For same line on lock handle frame see "Western" Tape, page 27, on hardwood reel see page 28.

Lighter Weight Tapes—For "Wolverine" Tapes in "standard weight" and "extra weight," see pages 21 and 22.

ROSE TOOLS, INC.



Engineers Pattern (Standard Weight) Frame Steel Tapes with Folding Handle

(Tape Thickness—Approximately .012 Inch)

No. 273 Series. $\frac{1}{4}$ Inch Wide.

Metal frame is sturdy, handles well in hard service and best takes care of dirt accumulation. This line is most flexible yet durable, being of the old standard engineering tape width and thickness, $\frac{1}{4}$ inch by approximately .012 inch.

Line of highest grade tape steel, distinctly marked and with zero point at extreme end of tape. It is readily removed from frame and is supplied with two detachable finger rings of improved pattern. It has "Instantaneous" Readings and "Nubian" Finish. Measurements guaranteed accurate.

Substantial, 4-arm metal frame with removable, polished hardwood handle and with folding winding handle. Frame and mountings are heavily nickel plated.

Marked One Side Only

Feet, inches and 8ths.....	No. 273	276	277	278
Feet, 10ths and 100ths ft.....	273D	276D	277D	278D
Length, feet.....	50	100	150	200
Weight each, ozs.....	19	31	36	42
Price, each.....	\$9.70	\$16.50	\$25.00	\$32.30

Marked Metric and English

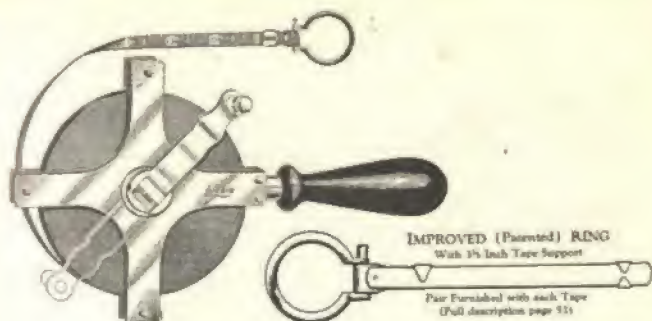
One Side First Decimeter in MM., Balance in CM., Other Side Feet, Inches and 8ths.

No.....	273ME	276ME	277ME
Length, meters.....	15	30	50
Length, feet.....	50	100	164
Price, each.....	\$10.90	\$19.00	\$30.60

NOTES: Other Assemblies—For same line in leather case see page 19, on "Wolverine" reel see page 21, on lock handle frame see page 25.

Stainless Steel—Above tapes can be supplied with stainless steel line at an extra price.

Metric Only—Above tapes so marked, prices same as feet and inches.



Engineers Pattern (Standard Weight) Frame Steel Tapes with Lock Handle

(Tape Thickness—Approximately .012 Inch)

No. 1273 Series. $\frac{1}{4}$ Inch Wide.

A sturdy yet most flexible engineers tape line with the popular lock handle frame. Frame tapes are extensively used where dirt and other obstructions are encountered. This tape is $\frac{1}{4}$ inch wide by approximately .012 inch thick, the standard engineering tape dimensions.

Line of highest grade tape steel, clearly marked and with zero point at extreme end of tape. It is readily removed from frame and is supplied with two detachable finger rings of improved pattern. It has "Instantaneous" Readings and "Nubian" Finish. Measurements guaranteed accurate.

Substantial, 4-arm, metal frame of lock handle pattern, i.e., with one-piece winding handle which, turned over, engages frame arms and locks the line at any point. Frame has a removable, polished hardwood handle of ample size to afford firm hold and the long winding handle gives good leverage. Frame and mountings are heavily nickel plated.

Marked One Side Only

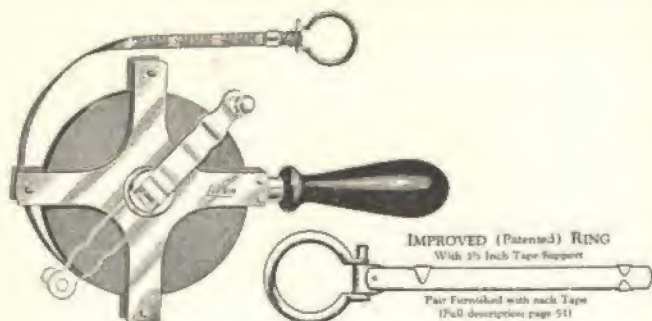
Feet, inches and 8ths.	No.	1273	1276	1277	1278
Feet, 10ths and 100ths ft.	No.	1273D	1276D	1277D	1278D
Length, feet		50	100	150	200
Weight each, ozs.		19	31	36	42
Price, each.		\$9.70	\$16.50	\$25.00	\$32.30

Marked Metric and English

One Side First Decimeter in MM., Balance in CM., Other Side Feet, Inches and 8ths.					
No.		1273ME	1276ME	1277ME	
Length, meters		15	30	50	
Length, feet		50	100	164	
Price, each.		\$10.90	\$19.00	\$30.60	

NOTES: Other Assemblies—For same line in leather case see page 10, on "Wolverine" reel see page 21, on folding handle frame see page 24.
Stainless Steel—Above tapes can be supplied with stainless steel line at an extra price.
Metric Only—Above tapes so marked, prices same as above.

ROSE TOOLS, INC.



Engineers Pattern (Extra Weight) Frame Steel Tapes with Lock Handle

(Tape Thickness—Approximately .015 Inch)

No. 1273-X Series. $\frac{1}{4}$ Inch Wide.

An engineers sturdy tape line, same as No. 1273 series shown page 25, except line 25% heavier, giving extra durability.

Line of highest grade tape steel, distinctly marked, and with zero point at extreme end of tape. Easily removed from frame and supplied with two detachable finger rings of improved pattern. It has "Instantaneous" Readings and "Nubian" Finish. Measurements guaranteed accurate.

Four-arm, substantial, metal frame, with lock handle, i.e., one-piece winding handle which, turned over, engages frame arms and locks line at any point. Frame has removable, polished hardwood handle of ample length, and long winding handle, these combining to give firm hold and good leverage. Frame and its mountings are heavily nickel plated.

Marked One Side Only

Feet, inches and 8ths.....No.	1273-X	1276-X	1277-X	1278-X
Feet, 10ths and 100ths ft.....No.	1273D-X	1276D-X	1277D-X	1278D-X
Length, feet.....	50	100	150	200
Weight each, ozs.....	29	46	51	63
Price, each.....	\$9.70	\$16.50	\$25.00	\$32.30

Marked Metric and English

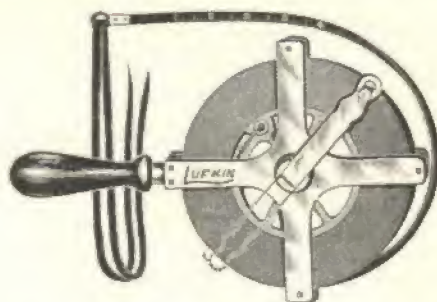
One Side First Decimeter in MM., Balance in CM.,
Other Side Feet, Inches and 8ths.

No.....	1273ME-X	1276ME-X	1277ME-X
Length, meters.....	15	30	50
Length, feet.....	50	100	164
Price, each.....	\$10.00	\$19.00	\$30.60

Refills, i.e. Above Tape Lines Without Frames, see page 32.

NOTES: Other Assemblies—For same line in leather case see page 20, on "Wolverine" reel see page 22.

Standard Weight—For corresponding "standard weight" frame tape see page 25.



"Western" Engineers Heavy Steel Tapes on Lock Handle Frame

(Tape Thickness—Approximately .020 Inch)

No. 1276-XX Series. $\frac{1}{4}$ Inch Wide.

Line over 50% heavier than engineers "standard weight" tapes. It is of same weight as chain tapes but fully subdivided throughout. With lock handle frame, a rugged and very popular assembly, best aid in drying out the line and clearing it of dirt accumulation. The "Western" is a heavy duty tape, convenient to handle and accurate.

One-quarter inch tape with "Instantaneous" Readings and "Nubian" Finish. Of high grade tape steel, clearly marked. Line easily removed from frame and each end has blank space and riveted-on heavy metal clip or eye for holding rawhide thong. A pair of such thongs is supplied with each tape.

Substantial. 4-arm, metal frame with removable, polished hardwood handle. It has lock handle which, turned over, engages arms of frame and so locks the line at any point. Large finger knob, long winding handle and large drum give good grip, leverage and speed in winding. Frame and its mountings are heavily nickel plated.

Marked One Side Only

Tapes Complete with Frame

Feet, 10ths and 100ths ft.	No. 1276D-XX	1277D-XX	1278D-XX
Feet, inches and 8ths	No. 1276-XX	1277-XX	1278-XX
Length, feet	100	150	200
Weight each, lbs.	3 $\frac{1}{2}$	4 $\frac{3}{4}$	6
Price, each,	\$20.40	\$30.80	\$40.00

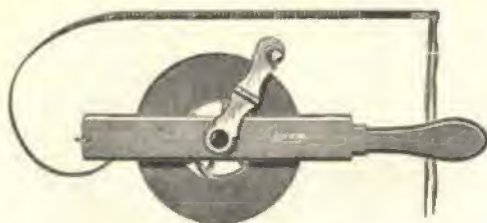
Tape Lines Only, without Frame, with Thongs

Feet, 10ths and 100ths ft.	No. 01276D-XX	01277D-XX	01278D-XX
Feet, inches and 8ths	No. 01276-XX	01277-XX	01278-XX
Length, feet	100	150	200
Weight each, lbs.	2	3	4
Price, each,	\$15.00	\$22.00	\$29.10

NOTES: Other Assemblies—For same 100 ft. line on "Wolverine" reel see page 23, on hardwood reel see page 28.

Lighter Weight Tapes—For engineers "standard weight" and "extra weight" tapes on lock handle frames see pages 25 and 26.

Metric and Metric-English Graduation—"West" ROSE TOOLS, INC. supplied.



Engineers Heavy Steel Tapes on Hardwood Reel

(Tape Thickness—Approximately .020 Inch)

No. 1576-XX Series. $\frac{1}{4}$ Inch Wide.

A combination engineering and surveying tape of chain tape pattern and weight but in engineers graduation. Line and reel are same as our popular No. 5100 Chain Tape shown page 45, except tape is fully subdivided.

This line is over 50% heavier than engineers "standard weight" tapes. It is of high grade tape steel, clearly marked and with "Instantaneous" Readings and "Nubian" Finish. Each end has blank space and a riveted-on metal clip or eye for holding rawhide thong. Two such thongs are supplied with each tape. Line is easily detached from reel. Measurements guaranteed accurate.

Well finished hardwood reel, with long folding winding handle and large drum, reeling up the line easily and rapidly. Mountings nickel plated.

Marked One Side Only

Tapes Complete with Reel

Feet, 10ths and 100ths ft.	No. 1576D-XX	100 ft.	Wt. each $2\frac{3}{4}$ lbs.	Each \$18.40
Feet, inches and 8ths	No. 1576-XX	100 ft.	Wt. each $2\frac{3}{4}$ lbs.	Each 18.40

Tape Lines Only, without Reel, with Thongs

Feet, 10ths and 100ths ft.	No. 01576D-XX	100 ft.	Wt. each 2 lbs.	Each \$15.00
Feet, inches and 8ths	No. 01576-XX	100 ft.	Wt. each 2 lbs.	Each 15.00

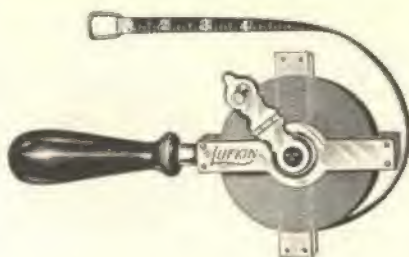
Notes: Other Assemblies:

Same lines on Metal Reel of pattern shown page 46—Prices same as above tapes complete.

Specify as: 01576D-XX or 01576-XX on 3100 reel.

Same lines on "Wolverine" Reel are listed page 23.

Same lines on Lock Handle Frame are listed page 27.



Frame Steel Tapes with Folding Handle

No. 283 Series. $\frac{3}{8}$ Inch Wide.

These are steel tapes for general measuring, of same type and weight as the popular "Challenge" but on metal frame. Frame tapes require a minimum of care as they do not readily clog with dirt and can be reeled up and put directly into oil.

Line of highest grade tape steel, distinctly marked, and with "Nubian" Finish and "Instantaneous" Readings, aids to accurate and quick reading. It has attached ring. Metal frame is sturdy and with its mountings is heavily nickel plated. It has folding winding handle. Polished hardwood handle is of size affording firm hold and is removable. Measurements guaranteed accurate.

Marked One Side Only

Feet, inches and 8ths.	No.	283	285	286	287	288
Feet, 10ths and 100ths ft.	No.	283D	285D	286D	287D	288D
Length, feet.		50	75	100	150	200
Weight each, ozs.		18	23	27	35	41
Price, each.		\$8.40	\$11.50	\$14.30	\$23.30	\$28.80

Marked Metric and English

One Side First Decimeter in MM., Balance in CM., Other Side Feet, Inches and 8ths.

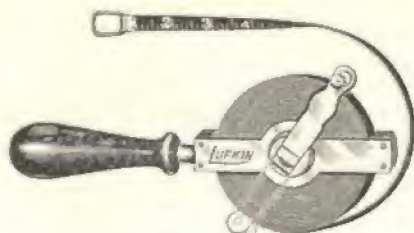
No.	283ME	285½ME	286ME	287ME
Length, meters.	15	25	30	50
Length, feet.	50	82	100	164
Price, each.	\$9.60	\$14.60	\$16.80	\$28.60

All above tapes have 2-arm frame except 150 ft., 200 ft., and 50 meter, which have 4-arm frame.

NOTES: Gages Tapes—For above tapes with plumb bob see pages 37 and 39.

Stainless Steel—Above tapes can be supplied with stainless steel line at an extra price.

Metric Only—Above tapes so marked, prices **ROSE TOOLS, INC.** has.



Lock Handle Frame Steel Tapes

No. 1283 Series. $\frac{3}{8}$ Inch Wide.

Steel tapes for general measuring, of same type and weight as the popular "Challenge," but on metal frame with lock handle. Tapes with frame can be immersed in oil and are extensively used where dirt and other obstructions are encountered.

Line of highest grade tape steel, clearly marked, with "Nubian" Finish and "Instantaneous" Readings. Ring attached. Substantial 2-arm metal frame. The lock handle is a long one-piece winding handle which, turned over, engages frame arms and locks the line at any point. It also gives extra leverage. Polished hardwood handle affords firm hold and is removable. Frame and its mountings heavily nickel plated. Measurements guaranteed accurate.

Marked One Side Only

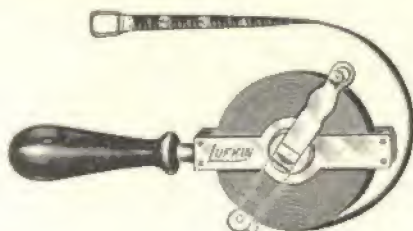
Feet, inches and 8ths.....	No.	1283	1286
Feet, 10ths and 100ths ft.....	No.	1283D	1286D
Length, feet.....		50	100
Weight each, ozs.....		20	32
Price, each.....		\$8.40	\$14.30

Marked Metric and English

One Side First Decimeter in MM., Balance in CM.,
Other Side Feet, Inches and 8ths.

No.....	1283ME	1285½ME	1286ME
Length, meters.....	15	25	30
Length, feet.....	50	82	100
Price, each.....	\$9.60	\$14.60	\$16.80

NOTES: Gaging Tapes—For above tapes with plumb bob see pages 38 and 39.
Stainless Steel Lines—Supplied on any above tapes at an extra price.
Metric Only—Above tapes so marked, prices same as feet and inches.



Lock Handle Frame Steel Tapes

No. 1293 Series. $\frac{1}{2}$ Inch Wide.

Sturdy steel tapes for general measuring, on metal frame with lock handle. Tapes with frame can be immersed in oil and are popular for use where dirt and dampness are found.

Line of highest grade tape steel, clearly marked, with "Nubian" Finish and "Instantaneous" Readings. Ring attached. Substantial 2-arm metal frame. The lock handle is a long one-piece winding handle which, turned over, engages frame arms and locks the line at any point. It also gives extra leverage. Polished hardwood handle affords firm hold, and is removable. Frame and its mountings heavily nickel plated. Measurements guaranteed accurate.

Marked One Side Only

Feet, inches and 8ths.....	No.	1293	1296
Feet, 10ths and 100ths ft.....	No.	1293D	1296D
Length, feet.....		50	100
Weight each, ozs.....		23	36
Price, each.....		\$9.70	\$16.50

Marked Metric and English

One Side First Decimeter in MM., Balance in CM.,
Other Side Feet, Inches and 8ths.

No.....	1293ME	1295 $\frac{1}{2}$ ME	1296ME
Length, meters.....	15	25	30
Length, feet.....	50	82	100
Price, each.....	\$10.90	\$17.10	\$19.00

NOTES: Gaging Tapes—For above tapes with plumb bob see pages 34 and 36.
Stainless Steel Lines—Supplied on any above tapes at an extra price.
Metric Only—Above tapes so marked, prices same as feet and inches.

Steel Tape Refills

(Tape Lines Only, without Cases or Reels.)

Covering Catalog Pages 5 to 31 Inclusive.

Specify as "Refills" and by Prefixing Zero to Stock Number of Complete Tape. Example: No. 0263, or 0263D, or 0263ME "Challenge" Tape Refill

1/4 Inch Wide, Light Weight "Junior" Refills

For "Reliable Jr." and "Challenge Jr."

Length, feet.....	25	33	50
Length, meters.....	10	15	15
Marked one side.....	Each \$3.60	\$4.00	\$4.50
Marked both sides.....	Each	5.10	6.00

1/4 by .012 Inch Engineers "Standard Weight" Refills. (With detachable rings)

For Series 233, 1373, 273 and 1273, also D and ME.

Length, feet.....	50	66	75	82	100	150	164	200	300
Length, meters.....	15	20	25	30	30	50	50	50	50
Marked one side.....	Each \$7.50	\$11.30	\$11.30	\$14.00	\$20.50	\$27.00	\$27.00	\$41.00	\$41.00
Marked both sides.....	Each 9.30	\$11.80	\$15.20	17.80	\$28.60				

1/4 by .015 Inch Engineers "Extra Weight" Refills. (With detachable rings)

For Series 233-X, 1373-X and 1273-X, also D and ME.

Length, feet.....	50	75	100	150	164	200
Length, meters.....	15	30	30	50	50	50
Marked one side.....	Each \$7.50	\$11.30	\$14.00	\$20.50	\$27.00	\$27.00
Marked both sides.....	Each 9.30	17.80	\$28.60			

1/4 by .020 Inch Engineers "Heavy" Refills or Lines Only
are Listed on pages 23, 27 and 28 with corresponding tapes complete.

3/8 Inch Wide Steel Tape Refills

For Series 200 "Reliable," 260 "Challenge," 240 "Rival," 283 and 1283 Frame Tapes, also D and ME.

Length, feet.....	15	25	33	50	66	75	82	100	150	164	200
Length, meters.....	5	7 1/2	10	15	20	22	25	30	50	50	50
Marked one side.....	Each \$3.60	\$3.90	\$4.50	\$5.70	\$8.00	\$8.30	\$9.00	\$10.80	\$13.50	\$18.00	\$18.00
Marked both sides.....	Each \$3.60	4.40	4.80	6.00	7.60	8.30	9.00	10.80	\$20.00		

1/2 Inch Wide Steel Tape Refills

For Series 300 "Reliable," 360 "Challenge," 1293 Frame Tapes, also D and ME.

Length, feet.....	15	25	33	50	66	75	82	100	150	164
Length, meters.....	5	7 1/2	10	15	20	22	25	30	50	50
Marked one side.....	Each \$4.50	\$4.80	\$5.70	\$7.20	\$8.30	\$8.30	\$10.50	\$16.50	\$23.10	\$23.10
Marked both sides.....	Each \$4.50	5.30	5.90	7.20	9.00	10.50	\$11.40	13.50		

3/8 Inch Wide Stainless Steel Tape Refills

For Series S-260, also D and ME, and same stainless tapes of other series.

Length, feet.....	25	50	75	82	100
Length, meters.....	7 1/2	15	25	25	30
Marked one side.....	Each \$6.10	\$9.50	\$13.50		\$17.80
Marked both sides.....	Each 6.00	11.00		\$17.20	20.80

1/2 Inch Wide Stainless Steel Tape Refills

For Series S-360, also D and ME, and same stainless tapes of other series.

Length, feet.....	25	50	75	82	100
Length, meters.....	7 1/2	15	25	25	30
Marked one side.....	Each \$7.30	\$11.10	\$16.10		\$20.70
Marked both sides.....	Each 8.00	12.60		\$20.30	23.60

NOTE: Millimeters Throughout—For this special metric graduation on any above 3/4 and 1 1/2 inch Tape Refills: Price 10c per meter additional to price of regular graduation.



"Atlas" Oil Gaging Heavy Steel Tapes with Plumb Bob 1/2 Inch Wide. With 20-ounce Plumb Bob.

Line and Frame Both Specially Designed For Tank Gaging

The "Atlas" is a line 50% heavier than standard weight Gaging Tapes, and with a rugged lock handle frame. Line has swivel snap and is equipped with No. 590 Brass Plumb Bob, both included in measurement. Bob detachable. Line of highest grade, clearly marked and with large figures, also with "Instantaneous" Readings and "Nubian" Finish, aids to accurate and quick reading.

The metal frame is case-hardened and built to withstand hard use. It has lock handle, a one-piece winding handle which, turned over, engages frame arms and locks line at any point, handy when sounding for bottom of tank. This long handle with large finger knob and the oversize drum shell give good grip, leverage and speed in winding. Removable, polished hardwood handle is of ample size to afford firm hold.

Solid brass Plumb Bob No. 590 weighs 20 ozs., so will penetrate heavy oils, etc. It is round, with tapered point, diameter one inch, length 6 3/4 inches.

To get the most complete, most practical and durable gaging outfit, specify "Atlas with 599 Wiper."

In Ordering Use Stock Numbers Complete, Just as Underscored

Tapes Complete with Frame and Bob Marked Feet, Inches and 8ths, One Side Only

Number	Length	Width and Type	Wt. Each	Each
<u>1290S with 590</u> "Atlas" Gaging Tape	25 ft.	1/2 inch, heavy	2 3/4 lbs.	\$12.70
<u>1291S with 590</u> "Atlas" Gaging Tape	33 ft.	1/2 inch, heavy	3 lbs.	13.60
<u>1293S with 590</u> "Atlas" Gaging Tape	50 ft.	1/2 inch, heavy	3 1/4 lbs.	15.60
<u>1294S with 590</u> "Atlas" Gaging Tape	66 ft.	1/2 inch, heavy	3 1/2 lbs.	17.60

No. 599 Wiper. (Described page 43).... With Any Above Tapes.... Extra each \$1.30

Lines Only for Above "Atlas" Gaging Tapes Fitted for but without Bob, and without Frame

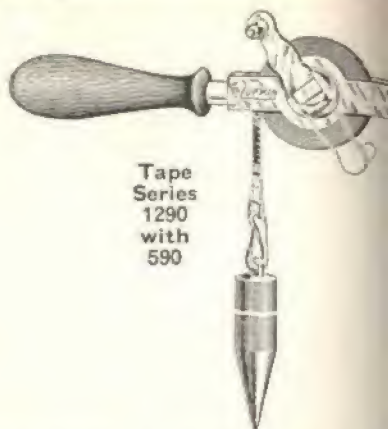
25 ft. "Atlas" Gaging Line Only.	No. <u>01290S for 590</u>	Each \$5.40
33 ft. "Atlas" Gaging Line Only.	No. <u>01291S for 590</u>	Each 6.20
50 ft. "Atlas" Gaging Line Only.	No. <u>01293S for 590</u>	Each 7.20
66 ft. "Atlas" Gaging Line Only.	No. <u>01294S for 590</u>	Each 9.50

NOTES: Metric and English—For "Atlas" Tapes so marked see page 40.
Metric Only—"Atlas" Tapes so marked, prices same as feet and inches.
Other Plumb Bobs—Any of our plumb bobs shown on page 42 may also be supplied with "Atlas" Tapes. Price basis: Difference in price of bobs only.

ROSE TOOLS, INC.



Tape
Series
290
with
590



Tape
Series
1290
with
590

Oil Gaging Steel Tapes with Plumb Bob $\frac{1}{2}$ Inch Wide.

Frame Tapes with standard weight, highest grade steel line. Line has swivel and Plumb Bob No. 590, both included in measurement. Bob detachable. Line clearly marked and has "Instantaneous" Readings and "Nubian" Finish.

Frame of No. 290 series tapes has folding winding handle. Frame of No. 1290 series has lock handle, i.e., one-piece winding handle which, turned over, engages frame and locks the line at any point, handy when sounding for bottom of tank. Both types are sturdy metal frames, with removable, polished hardwood handle affording firm hold. Frames and their mountings heavily nickel plated.

Solid brass Plumb Bob No. 590 weighs 20 ozs., so will penetrate heavy oils, etc. It is round, with tapered point, diameter one inch, length $6\frac{3}{4}$ inches.

In Ordering Use Stock Numbers Complete, Just as Underscored

Tapes Complete with Frame and Bob Marked Feet, Inches and 8ths, One Side Only

Number		Length	Width	Frame	Wt. Each	Each
<u>290 with 590</u>	Gaging Tape	25 ft.	$\frac{1}{2}$ inch	Folding Handle	$2\frac{3}{8}$ lbs.	\$ 9.
<u>291 with 590</u>	Gaging Tape	33 ft.	$\frac{1}{2}$ inch	Folding Handle	$2\frac{1}{2}$ lbs.	11.
<u>293 with 590</u>	Gaging Tape	50 ft.	$\frac{1}{2}$ inch	Folding Handle	$2\frac{3}{4}$ lbs.	12.
<u>1290 with 590</u>	Gaging Tape	25 ft.	$\frac{1}{2}$ inch	Lock Handle	$2\frac{3}{8}$ lbs.	\$ 9.
<u>1291 with 590</u>	Gaging Tape	33 ft.	$\frac{1}{2}$ inch	Lock Handle	$2\frac{1}{2}$ lbs.	11.
<u>1293 with 590</u>	Gaging Tape	50 ft.	$\frac{1}{2}$ inch	Lock Handle	$2\frac{3}{4}$ lbs.	12.

No. 599 Wiper. (Described page 43) . . . With Any Above Tapes . . . Extra each \$1.

Lines Only for Above Gaging Tapes Fitted for but without Bob, and without Frame

25 ft. Gaging Line Only.	No. <u>0290 for 590</u> or <u>01290 for 590</u>	Each	\$5.
33 ft. Gaging Line Only.	No. <u>0291 for 590</u> or <u>01291 for 590</u>	Each	5.
50 ft. Gaging Line Only.	No. <u>0293 for 590</u> or <u>01293 for 590</u>	Each	6.

(Lines in 290 and 1290 series tapes are identical)

NOTES: Metric and English—For above tapes so marked see page 40.

Metric Only—Above tapes so marked, prices same as feet and inches.

Stainless Steel Lines—Supplied on any above tapes at an extra price.

Lighter Weight Bobs—For above tapes so equipped see pages 35 and 36.

"Atlas" Extra Sturdy $\frac{1}{2}$ Inch Gaging Tapes—See page 33.



Tape with Plumb
Bob No. 588

Oil Gaging Steel Tapes with Plumb Bob $\frac{1}{2}$ Inch Wide.

A standard weight, highest grade steel tape on frame with folding winding handle. Line has swivel snap and plumb bob, both included in measurement. Bob detachable. Line clearly marked and has "Instantaneous" Readings and "Nubian" Finish. Metal frame is sturdy and with its mountings is heavily nickel plated. Removable, polished hardwood handle affords firm hold.

Solid brass, cone shaped plumb bob No. 588, pictured above, weighs 6 ozs., greatest diameter $1\frac{1}{4}$ inch, length $2\frac{3}{8}$ inch. Enameled iron, 3-legged bob 589, shown page 42, weighs 14 ozs., has base diameter $2\frac{3}{8}$ inch, and is interchangeable with 588, being same length.

In Ordering Use Stock Numbers Complete, Just as Underscored

Tapes Complete with Frame and Bob Marked Feet, Inches and 8ths, One Side Only

Number	Length	Width	Wt. Each	Each
<u>290 with 588</u> Gaging Tape	25 ft.	$\frac{1}{2}$ inch	$1\frac{1}{2}$ lbs.	\$ 9.10
<u>291 with 588</u> Gaging Tape	33 ft.	$\frac{1}{2}$ inch	$1\frac{3}{8}$ lbs.	10.50
<u>293 with 588</u> Gaging Tape	50 ft.	$\frac{1}{2}$ inch	$1\frac{7}{8}$ lbs.	12.30
<u>290 with 589</u> Gaging Tape	25 ft.	$\frac{1}{2}$ inch	2 lbs.	\$ 8.60
<u>291 with 589</u> Gaging Tape	33 ft.	$\frac{1}{2}$ inch	$2\frac{1}{8}$ lbs.	10.00
<u>293 with 589</u> Gaging Tape	50 ft.	$\frac{1}{2}$ inch	$2\frac{3}{8}$ lbs.	11.80

No. 599 Wiper. (Described page 43) . . . With Any Above Tapes . . . Extra each \$1.30

Lines Only for Above Gaging Tapes

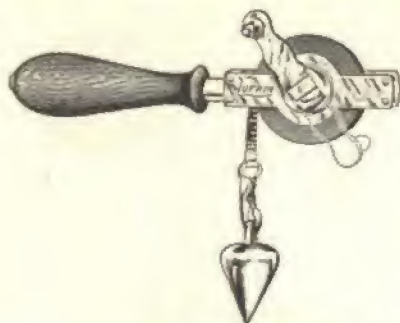
Fitted for but without Bob, and without Frame

25 ft. Gaging Line Only. No. <u>0290 for 588</u> (or 589)	Each \$5.20
33 ft. Gaging Line Only. No. <u>0291 for 588</u> (or 589)	Each 5.50
50 ft. Gaging Line Only. No. <u>0293 for 588</u> (or 589)	Each 6.50

(Bobs 588 and 589 being same length take identical tape line)

NOTES: Metric and English—For above tapes so marked see page 40.
Metric Only—Above tapes so marked, prices same as feet and inches.
Stainless Steel Lines—Supplied on any above tapes at an extra price.
Lock Handle Frame—For above tapes on such frames see page 36.
20 Ounce Brass Bob—For above tapes so equipped see page 34.
"Atlas" Extra Sturdy $\frac{1}{2}$ Inch Gaging Tapes—See page 34.

ROSE TOOLS, INC.



Tape with
Plumb Bob No. 588

Oil Gaging Steel Tapes with Plumb Bob $\frac{1}{2}$ Inch Wide.

A standard weight, highest grade steel tape on lock handle frame. Line has swivel snap and plumb bob, both included in measurement. Bob detachable. Line clearly marked and has "Instantaneous" Readings and "Nubian" Finish. Substantial metal frame with one-piece lock handle with large finger knob giving very good grip for winding. This handle, turned over, engages frame arms, and locks the line at any point, very handy when sounding for bottom of tank. Frame and its mountings are heavily nickel plated. Removable, polished hardwood handle affords firm hold.

Solid brass, cone shaped plumb bob No. 588, pictured above, weighs 6 ozs., greatest diameter $1\frac{1}{4}$ inch, length $2\frac{3}{8}$ inch. Enameled iron, 3-legged bob 589, shown page 42 weighs 14 ozs., has base diameter $2\frac{3}{8}$ inch and is interchangeable with 588, being same length.

In Ordering Use Stock Numbers Complete, Just as Underscored

Tapes Complete with Frame and Bob Marked Feet, Inches and 8ths, One Side Only

Number	Length	Width	Wt. Each	Each
<u>1290 with 588</u> Gaging Tape	25 ft.	$\frac{1}{2}$ inch	$1\frac{1}{2}$ lbs.	\$ 9.10
<u>1291 with 588</u> Gaging Tape	33 ft.	$\frac{1}{2}$ inch	$1\frac{5}{8}$ lbs.	10.50
<u>1293 with 588</u> Gaging Tape	50 ft.	$\frac{1}{2}$ inch	$1\frac{7}{8}$ lbs.	12.25
<u>1290 with 589</u> Gaging Tape	25 ft.	$\frac{1}{2}$ inch	2 lbs.	\$ 8.00
<u>1291 with 589</u> Gaging Tape	33 ft.	$\frac{1}{2}$ inch	$2\frac{1}{8}$ lbs.	10.00
<u>1293 with 589</u> Gaging Tape	50 ft.	$\frac{1}{2}$ inch	$2\frac{3}{8}$ lbs.	11.80

No. 599 Wiper. (Described page 43) . . . With Any Above Tapes . . . Extra each \$1.30

Lines Only for Above Gaging Tapes Fitted for but without Bob, and without Frame

25 ft. Gaging Line Only. No. <u>01290 for 588</u> (or 589)	Each	\$5.25
33 ft. Gaging Line Only. No. <u>01291 for 588</u> (or 589)	Each	5.50
50 ft. Gaging Line Only. No. <u>01293 for 588</u> (or 589)	Each	6.50

(Bobs 588 and 589 being same length take identical tape line)

NOTES: Metric and English—For above tapes so marked see page 40.
Metric Only—Above tapes so marked, prices same as feet and inches.
Stainless Steel Lines—Supplied on any above tapes at an extra price.
20 Oz., Brass Bob—For above tapes so equipped see page 34.
"Atlas" Extra Sturdy $\frac{1}{2}$ Inch Gaging Tapes—See page 33.



Tape with
Plumb Bob No. 588

Oil Gaging Steel Tapes with Plumb Bob $\frac{3}{8}$ Inch Wide.

A standard weight, highest grade steel tape on frame with folding wind-up handle. Line has swivel snap and plumb bob, both included in measurement. Bob detachable. Line clearly marked and has "Instantaneous" Readings and "Nubian" Finish. Metal frame is sturdy and with its mountings is heavily nickel plated. Removable, polished hardwood handle affords firm hold.

Solid brass, cone shaped plumb bob No. 588, pictured above, weighs 6 ozs., greatest diameter $1\frac{1}{4}$ inch, length $2\frac{3}{8}$ inch. Enameled iron, 3-legged bob 589, shown page 42, weighs 14 ozs., has base diameter $2\frac{3}{8}$ inch, and is interchangeable with 588, being same length.

In Ordering Use Stock Numbers Complete, Just as Underscored

Tapes Complete with Frame and Bob Marked Feet, Inches and 8ths, One Side Only

Number	Length	Width	Wt. Each	Each
<u>280 with 588</u> Gaging Tape	25 ft.	$\frac{3}{8}$ inch	$1\frac{3}{8}$ lbs.	\$ 8.10
<u>281 with 588</u> Gaging Tape	33 ft.	$\frac{3}{8}$ inch	$1\frac{1}{2}$ lbs.	9.10
<u>283 with 588</u> Gaging Tape	50 ft.	$\frac{3}{8}$ inch	$1\frac{5}{8}$ lbs.	11.00
<u>280 with 589</u> Gaging Tape	25 ft.	$\frac{3}{8}$ inch	$1\frac{3}{8}$ lbs.	\$ 7.60
<u>281 with 589</u> Gaging Tape	33 ft.	$\frac{3}{8}$ inch	2 lbs.	8.60
<u>283 with 589</u> Gaging Tape	50 ft.	$\frac{3}{8}$ inch	$2\frac{1}{8}$ lbs.	10.50

No. 599 Wiper. (Described page 43).... With Any Above Tapes.... Extra each \$1.30

Lines Only for Above Gaging Tapes

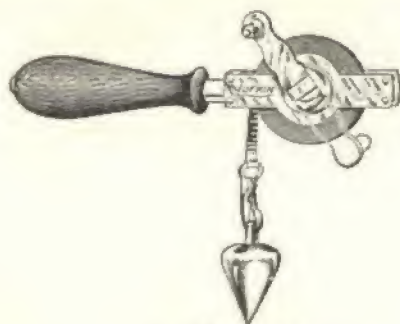
Fitted for but without Bob, and without Frame

25 ft. Gaging Line Only. No. <u>0280 for 588</u> (or 589).....	Each \$4.20
33 ft. Gaging Line Only. No. <u>0281 for 588</u> (or 589).....	Each 4.50
50 ft. Gaging Line Only. No. <u>0283 for 588</u> (or 589).....	Each 5.20

(Bobs 588 and 589 being same length take identical tape line)

NOTES: Metric and English—For above tapes so marked see page 40.
Metric Only—Above tapes so marked. prices same as feet and inches.
Stainless Steel Lines—Supplied on any above tapes at an extra price.
Lock Handle Frame—For above tapes on such

ROSE TOOLS, INC.



Tape with
Plumb Bob No. 588

Oil Gaging Steel Tapes with Plumb Bob

$\frac{3}{8}$ Inch Wide.

A standard weight, highest grade steel tape on lock handle frame. Line has swivel snap and plumb bob, both included in measurement. Bob detachable. Line clearly marked and has "Instantaneous" Readings and "Nubian" Finish. Substantial metal frame with one-piece lock handle with large finger knob giving very good grip for winding. This handle, turned over, engages frame arms, and locks the line at any point, very handy when sounding for bottom of tank. Frame and its mountings are heavily nickel plated. Removable, polished hardwood handle affords firm hold.

Solid brass, cone shaped plumb bob No. 588, pictured above, weighs 6 ozs., greatest diameter $1\frac{1}{4}$ inch, length $2\frac{3}{8}$ inch. Enamelled iron, 3-legged bob 589, shown page 42, weighs 14 ozs., has base diameter $2\frac{3}{8}$ inch and is interchangeable with 588, being same length.

In Ordering Use Stock Numbers Complete, Just as Underscored

Tapes Complete with Frame and Bob

Marked Feet, Inches and 8ths, One Side Only

Number		Length	Width	Wt. Each	Each
<u>1280 with 588</u>	Gaging Tape	25 ft.	$\frac{3}{8}$ inch	1 $\frac{3}{8}$ lbs.	\$ 8.10
<u>1281 with 588</u>	Gaging Tape	33 ft.	$\frac{3}{8}$ inch	1 $\frac{1}{2}$ lbs.	9.10
<u>1283 with 588</u>	Gaging Tape	50 ft.	$\frac{3}{8}$ inch	1 $\frac{5}{8}$ lbs.	11.00
<u>1280 with 589</u>	Gaging Tape	25 ft.	$\frac{3}{8}$ inch	1 $\frac{3}{8}$ lbs.	\$ 7.60
<u>1281 with 589</u>	Gaging Tape	33 ft.	$\frac{3}{8}$ inch	2 lbs.	8.60
<u>1283 with 589</u>	Gaging Tape	50 ft.	$\frac{3}{8}$ inch	2 $\frac{1}{8}$ lbs.	10.50

No. 599 Wiper. (Described page 43) . . . With Any Above Tapes. . . Extra each \$1.30

Lines Only for Above Gaging Tapes

Fitted for but without Bob, and without Frame

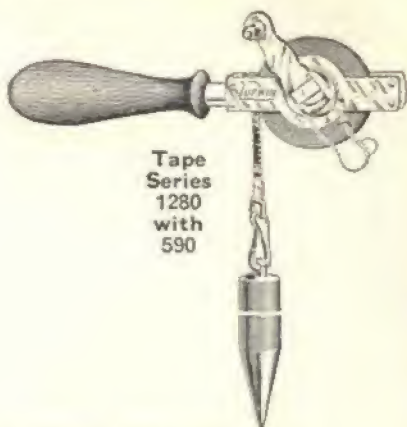
25 ft. Gaging Line Only.	No. <u>01280 for 588</u> (or 589)	Each	\$1.20
33 ft. Gaging Line Only.	No. <u>01281 for 588</u> (or 589)	Each	4.50
50 ft. Gaging Line Only.	No. <u>01283 for 588</u> (or 589)	Each	5.20

(Bobs 588 and 589 being same length take identical tape line)

NOTES: Metric and English—For above tapes so marked see page 40.
Metric Only—Above tapes so marked, prices same as feet and inches.
Stainless Steel Lines—Supplied on any above tapes at an extra price.



Tape
Series
280
with
590



Tape
Series
1280
with
590

Oil Gaging Steel Tapes with Plumb Bob

$\frac{3}{8}$ Inch Wide.

Frame Tapes with standard weight, highest grade steel line. Line has swivel snap and Plumb Bob No. 590, both included in measurement. Bob detachable. Line clearly marked and has "Instantaneous" Readings and "Nubian" Finish.

Frame of No. 280 series tapes has folding winding handle. Frame of No. 1280 series has lock handle, i.e., one-piece winding handle which, turned over, engages frame arms and locks the line at any point, handy when sounding for bottom of tank. Both types are sturdy metal frames, with removable, polished hardwood handle affording firm hold. Frames and their mountings heavily nickel plated.

Solid brass Plumb Bob No. 590 weighs 20 ozs., so will penetrate heavy oils, etc. It is round, with tapered point, diameter one inch, length $6\frac{3}{4}$ inches.

In Ordering Use Stock Numbers Complete, Just as Underscored

Tapes Complete With Frame and Bob Marked Feet, Inches and 8ths, One Side Only

Number	Length	Width	Frame	Wt. Each	Each
<u>280 with 590</u> Gaging Tape	25 ft.	$\frac{3}{8}$ inch	Folding Handle	2 $\frac{1}{4}$ lbs.	\$8.60
<u>281 with 590</u> Gaging Tape	33 ft.	$\frac{3}{8}$ inch	Folding Handle	2 $\frac{3}{8}$ lbs.	9.60
<u>283 with 590</u> Gaging Tape	50 ft.	$\frac{3}{8}$ inch	Folding Handle	2 $\frac{1}{2}$ lbs.	11.50
<u>1280 with 590</u> Gaging Tape	25 ft.	$\frac{3}{8}$ inch	Lock Handle	2 $\frac{1}{4}$ lbs.	\$ 8.60
<u>1281 with 590</u> Gaging Tape	33 ft.	$\frac{3}{8}$ inch	Lock Handle	2 $\frac{3}{8}$ lbs.	9.60
<u>1283 with 590</u> Gaging Tape	50 ft.	$\frac{3}{8}$ inch	Lock Handle	2 $\frac{1}{2}$ lbs.	11.50

No. 599 Wiper. (Described page 43). . . . With Any Above Tapes. . . . Extra each \$1.30

Lines Only for Above Gaging Tapes

Fitted for but without Bob, and without Frame

25 ft. Gaging Line Only.	No. <u>0280 for 590</u> or <u>01280 for 590</u>	Each	\$4.20
33 ft. Gaging Line Only.	No. <u>0281 for 590</u> or <u>01281 for 590</u>	Each	4.50
50 ft. Gaging Line Only.	No. <u>0283 for 590</u> or <u>01283 for 590</u>	Each	5.20

(Lines in 280 and 1280 series tapes are identical)

NOTES: Metric and English—For above tapes so marked see page 40.
Metric Only—Above tapes so marked, prices same as feet and inches.
Stainless Steel Lines—Supplied on any above tapes at an extra price.
Lighter Weight Bobs—For above tapes so ROSE TOOLS INC. 37 and 38.

Metric-English Oil Gaging Steel Tapes Complete with Frame and Bob

"Standard Pattern" Tapes are marked one side first decimeter in mm., balance in cm.; other side feet, inches and 8ths.

★ "Mexican Pattern" Tapes are in millimeters throughout, and feet, inches and 16ths.

In Ordering Use Stock Numbers Complete, Just as Underscored

"Atlas" Standard Pattern ($\frac{1}{2}$ inch wide, heavy)

Number	Length	Description	Each
<u>1291S-ME with 590</u> Gaging Tape	10 meters (33 ft.)	Page 33	\$14.30
<u>1293S-ME with 590</u> Gaging Tape	15 meters (50 ft.)	Page 33	16.80
<u>1294S-ME with 590</u> Gaging Tape	20 meters (66 ft.)	Page 33	19.00

"Atlas" Mexican Pattern ($\frac{1}{2}$ inch wide, heavy)

No. <u>1291S-ME Mexican Pattern with 590</u> Gaging Tape. Length: 10 meters (33 ft.)	\$15.30
No. <u>1293S-ME Mexican Pattern with 590</u> Gaging Tape. Length: 15 meters (50 ft.)	18.40
No. <u>1294S-ME Mexican Pattern with 590</u> Gaging Tape. Length: 20 meters (66 ft.)	21.50

"Standard Pattern" Gaging Tapes Complete

Number	Length	Width	Description	Each
<u>291ME with 590</u> Gaging Tape	10 meters (33 ft.)	$\frac{1}{2}$ inch	Page 34	\$11.70
<u>293ME with 590</u> Gaging Tape	15 meters (50 ft.)	$\frac{1}{2}$ inch	Page 34	14.00
<u>1291ME with 590</u> Gaging Tape	10 meters (33 ft.)	$\frac{1}{2}$ inch	Page 34	11.70
<u>1293ME with 590</u> Gaging Tape	15 meters (50 ft.)	$\frac{1}{2}$ inch	Page 34	14.00
<u>291ME with 588</u> Gaging Tape	10 meters (33 ft.)	$\frac{1}{2}$ inch	Page 35	\$11.20
<u>293ME with 588</u> Gaging Tape	15 meters (50 ft.)	$\frac{1}{2}$ inch	Page 35	13.50
<u>291ME with 589</u> Gaging Tape	10 meters (33 ft.)	$\frac{1}{2}$ inch	Page 35	10.70
<u>293ME with 589</u> Gaging Tape	15 meters (50 ft.)	$\frac{1}{2}$ inch	Page 35	13.00
<u>1291ME with 588</u> Gaging Tape	10 meters (33 ft.)	$\frac{1}{2}$ inch	Page 36	\$11.20
<u>1293ME with 588</u> Gaging Tape	15 meters (50 ft.)	$\frac{1}{2}$ inch	Page 36	13.50
<u>1291ME with 589</u> Gaging Tape	10 meters (33 ft.)	$\frac{1}{2}$ inch	Page 36	10.70
<u>1293ME with 589</u> Gaging Tape	15 meters (50 ft.)	$\frac{1}{2}$ inch	Page 36	13.00
<u>281ME with 588</u> Gaging Tape	10 meters (33 ft.)	$\frac{3}{8}$ inch	Page 37	\$10.00
<u>283ME with 588</u> Gaging Tape	15 meters (50 ft.)	$\frac{3}{8}$ inch	Page 37	12.20
<u>281ME with 589</u> Gaging Tape	10 meters (33 ft.)	$\frac{3}{8}$ inch	Page 37	9.50
<u>283ME with 589</u> Gaging Tape	15 meters (50 ft.)	$\frac{3}{8}$ inch	Page 37	11.70
<u>1281ME with 588</u> Gaging Tape	10 meters (33 ft.)	$\frac{3}{8}$ inch	Page 38	\$10.00
<u>1283ME with 588</u> Gaging Tape	15 meters (50 ft.)	$\frac{3}{8}$ inch	Page 38	12.20
<u>1281ME with 589</u> Gaging Tape	10 meters (33 ft.)	$\frac{3}{8}$ inch	Page 38	9.50
<u>1283ME with 589</u> Gaging Tape	15 meters (50 ft.)	$\frac{3}{8}$ inch	Page 38	11.70
<u>281ME with 590</u> Gaging Tape	10 meters (33 ft.)	$\frac{3}{8}$ inch	Page 39	\$10.50
<u>283ME with 590</u> Gaging Tape	15 meters (50 ft.)	$\frac{3}{8}$ inch	Page 39	12.70
<u>1281ME with 590</u> Gaging Tape	10 meters (33 ft.)	$\frac{3}{8}$ inch	Page 39	10.50
<u>1283ME with 590</u> Gaging Tape	15 meters (50 ft.)	$\frac{3}{8}$ inch	Page 39	12.70

No. 599 Wiper. (Described page 43) . . . With Any Above Tapes . . . Extra each \$1.30

★ Mexican Pattern: While only "Atlas" Tapes are so listed above, all other tapes above will, when specified, be supplied in "Mexican Pattern" i.e., in mm. and 16ths throughout, at extra each . . . 10 meter \$1.10, 15 meter \$1.65.

NOTES: Lines Only For All Above Gaging Tapes—See page 41.

Stainless Steel Lines—Supplied on any above standard weight $\frac{3}{8}$ and $\frac{1}{2}$ inch tapes at an extra price.

Metric Only—See footnotes on pages 33 to 39.

Lines Only for Metric-English Oil Gaging Steel Tapes

Fitted for but without Bob, and without Frame.

For Tapes Listed on Page 40

"Standard Pattern" Tapes are marked one side first decimeter in mm., balance in cm.; other side feet, inches and 8ths.

★ "Mexican Pattern" Tapes are in millimeters throughout, and feet, inches and 16ths.

In Ordering Use Stock Numbers Complete, Just as Underscored

Lines Only for "Atlas" Standard Pattern

Length	Number	Width	Each
10 meter (33 ft.) Gaging Line Only	<u>01291S-ME for 590</u>	½ inch, heavy	\$ 7.40
15 meter (50 ft.) Gaging Line Only	<u>01293S-ME for 590</u>	½ inch, heavy	8.80
20 meter (66 ft.) Gaging Line Only	<u>01294S-ME for 590</u>	½ inch, heavy	11.70

Lines Only for "Atlas" Mexican Pattern

10 meter (33 ft.) Gaging Line Only	<u>01291S-ME Mexican Pattern for 590</u>	\$ 8.50
15 meter (50 ft.) Gaging Line Only	<u>01293S-ME Mexican Pattern for 590</u>	10.50
20 meter (66 ft.) Gaging Line Only	<u>01294S-ME Mexican Pattern for 590</u>	13.90

Lines Only for "Standard Pattern" Gaging Tapes

Length	Number	Width	Each
10 meter (33 ft.) Gaging Line Only	<u>0291ME for 590</u>	½ inch	\$6.70
15 meter (50 ft.) Gaging Line Only	<u>0293ME for 590</u>	½ inch	8.20

For Tape Lines Only for 1291ME-590 and 1293ME-590, use stock numbers and prices same as above. Such lines are identical with those above.

10 meter (33 ft.) Gaging Line Only	<u>0291ME for 588 (or 589)</u>	½ inch	\$6.70
15 meter (50 ft.) Gaging Line Only	<u>0293ME for 588 (or 589)</u>	½ inch	8.20

For Tape Lines Only for 1291ME-588 and 1293ME-588 (or 589), use stock numbers and prices same as above. Such lines are identical with above.

10 meter (33 ft.) Gaging Line Only	<u>0281ME for 588 (or 589)</u>	¾ inch	\$5.50
15 meter (50 ft.) Gaging Line Only	<u>0283ME for 588 (or 589)</u>	¾ inch	6.80

For Tape Lines Only for 1281ME-588 and 1283ME-588 (or 589), use stock numbers and prices same as above. Such lines are identical with above.

10 meter (33 ft.) Gaging Line Only	<u>0281ME for 590</u>	¾ inch	\$5.50
15 meter (50 ft.) Gaging Line Only	<u>0283ME for 590</u>	¾ inch	6.80

For Tape Lines Only for 1281ME-590 and 1283ME-590, use stock numbers and prices same as above. Such lines are identical with those above.

★ Mexican Pattern: While only "Atlas" Lines Only are so listed above, all other gaging lines above will, when so specified, be supplied in "Mexican Pattern," i.e., in mm. and 16ths throughout, at extra each . . . 10 meter \$1.10, 15 meter \$1.65.

Notes: Stainless Steel—Any above standard weight ¾ and ½ inch lines supplied in stainless steel at an extra price.

Metric Only—See footnotes on pages 33 to ROSE TOOLS, INC.



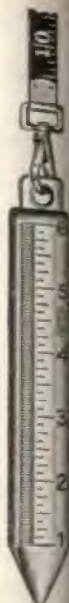
No. 590



No. 588



No. 589

No.
590G

Plumb Bobs for Steel Tapes

(For Oil Gaging Tapes with Bobs See Pages 33 to 40.)

These Plumb Bobs are extensively used for tank gaging. (Tapes used with them are cut to include bob in measurement, i.e., so zero falls at lower end of bob.)

No. 588 is a 6-ounce, solid brass bob, cone shaped; a weight suitable for the lighter oils, gasoline, etc.

No. 589 is a 14-ounce, enameled iron bob, 3-legged, and is interchangeable with No. 588, being same length.

No. 590 is a 20-ounce, solid brass bob, round, with tapered point, and will penetrate heavy oils, etc.

No. 590G is exactly same as No. 590 except graduated inches to 8ths, reading upward, i.e., zero falling at lower end of point.

Nos. 588A and 590A are brass bobs, identical with Nos. 588 and 590 except having removable tip (screw tip) made of "Ampeco" metal. "Ampeco" is similar to brass but harder.

No.		Wt. Each	Length	Diameter	Each
588	Plumb Bob	6 ozs.	2 $\frac{3}{8}$ inch	1 $\frac{1}{4}$ inch	\$2.60
589	Plumb Bob	14 ozs.	2 $\frac{3}{8}$ inch	2 $\frac{3}{8}$ inch	2.10
590	Plumb Bob	20 ozs.	6 $\frac{3}{4}$ inch	1 inch	3.10
590G	Plumb Bob	20 ozs.	6 $\frac{3}{4}$ inch	1 inch	4.10
588A	Plumb Bob	6 ozs.	2 $\frac{3}{8}$ inch	1 $\frac{1}{4}$ inch	3.10
590A	Plumb Bob	20 ozs.	6 $\frac{3}{4}$ inch	1 inch	3.70

Outage Plumb Bob No. 587

Designed for determining tank outage rather than contents. Outage gaging is most common for ship tanks and related work.

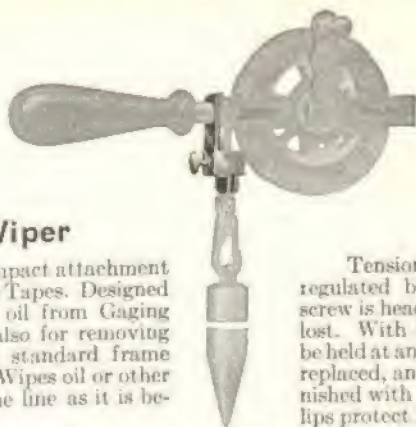
Bob No. 587 is of solid brass, $\frac{3}{4}$ inch square. It has inserted black strip in dull finish, holding and making oil line most readable. It is graduated to 16ths inch, with inches numbered from top to bottom, zero point falling at inside of top of eye. (Tapes used with this bob have zero falling at inside of outer end of snap; hence adding oil line measurement on bob to tape reading, gives total outage.)

No.		Wt. Each	Length	Diameter	Each
587	Outage Plumb Bob	16 ozs.	7 inch	$\frac{3}{4}$ inch, square	\$4.90

Note: Tapes with Bob—Specify by adding bob number to tape number, as "12915 with 589," etc.



No. 587



Tape Wiper

A sturdy and compact attachment fitting All our Frame Tapes. Designed primarily for wiping oil from Gaging Tapes, it is suitable also for removing dirt, lint, etc., from standard frame tapes with end ring. Wipes oil or other accumulation from the line as it is being reeled in.

Tension of wiper pads is nicely regulated by thumb screw, which screw is headed so it cannot become lost. With it the tape line can also be held at any point. Pads are easily replaced, and six extra ones are furnished with each Wiper. Extension lips protect line from breakage.

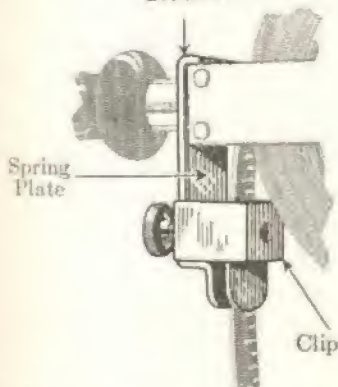
When wanted on tapes ordered specify "With 599 Wiper," and we ship assembled as shown above, and at price of Tape plus price of Wiper. Wipers are also sold separately, as they can be assembled in the field on tapes in use.

No. 599 Wiper. (With 6 extra pads) Each \$1.30
Pads only for No. 599. Per doz. .40

Directions for Assembling Wiper to Tape

Wiper has three principal parts as illustrated below. Separate them.
Place *Tape Wiper Clip* over tape line with its pad on winding drum side of line and with its lip extending downward toward first end of line.
Pass *Tape Wiper Bracket* up through clip, from first end.
Insert *Spring Plate* downward in clip between bracket and tape line, pad facing pad.
Attach Wiper to Frame by screwing hardwood tape handle through Wiper into Frame.

Bracket



Tape Wiper Clip



Spring Plate

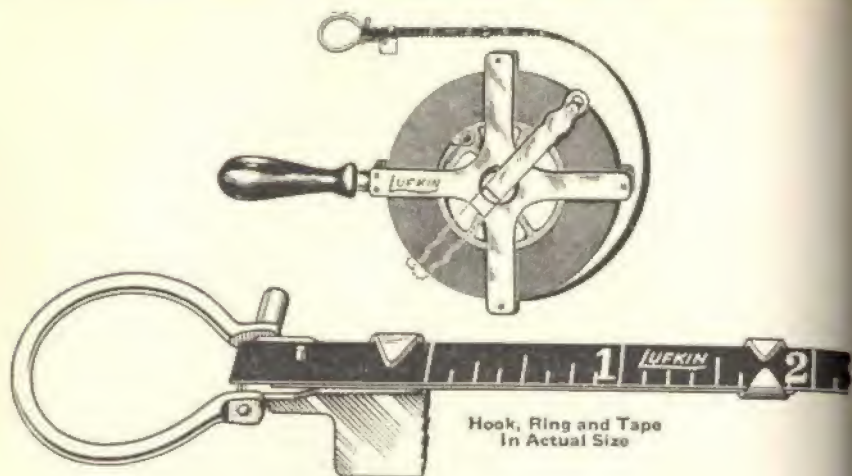


Tape Wiper Bracket

Tank Strapping Tapes

The American Petroleum Institute Measuring Code specifies, for tank strapping, a 100 foot steel tape, $\frac{1}{4}$ inch wide, marked 10ths and 100ths of feet. Various steel tapes are used, but our Engineers Tapes in "D" graduation, shown pages 19 to 27, meet code specification and have required durability. Most popular of all for tank strapping is "Extra Weight" Tape No. 1276D-X, shown page 26.

NOTE: For Oil Gaging Tapes—See pages 33 to 40. ROSE TOOLS, INC.



Hook, Ring and Tape
In Actual Size

"Derrick" Steel Tapes With Lock Handle Frame

Width: $\frac{1}{4}$ Inch.

Approximate Thickness: .020 Inch.

A heavy duty Tape and Frame with sturdy hook and finger ring at first end of line, especially designed for measuring pipe or casing standing upright, as in a derrick. This Tape is suitable also for general measuring work.

The steel hook or block is securely riveted to the lip of the ring. It projects $\frac{1}{2}$ inch from lower side of the tape and has ribbed face so holds well to the pipe. Zero falls at inside of hook. The swinging finger ring is $1\frac{1}{8}$ inch in diameter, so affords firm hand hold. The man in the derrick can quickly bring this tape into position and, without sighting, set it down on the pipe so that accurate measurement is quickly obtained even in a high wind or from an unfavorable position. The tape line being but $\frac{1}{4}$ inch wide reduces wind resistance. Flexible lip of the ring prevents sharp kinking of the line. The hook is handy in practically any kind of measuring. However, this hook and ring are detachable, allowing our standard engineers tape ring (No. 580 shown page 51) to be applied. Last end of tape has metal clip or eye and for it leather thong is supplied. Tape is detachable from frame.

This $\frac{1}{4}$ -inch line, while of extra weight, like Chain Tapes, is fully subdivided throughout. It has "Instantaneous" Readings and "Nubian" Finish.

The lock handle, 4-arm frame is nickel plated and has hardwood handle. Its long winding handle and large drum give good leverage and speed in winding.

Marked One Side Only

Tapes Complete with Frame

Length	Feet, inches and 8ths	Feet, 10ths and 100ths ft.	Wt. each	Each
50 ft.	No. 2273	No. 2273D	2 $\frac{1}{2}$ lbs.	\$14.20
100 ft.	No. 2276	No. 2276D	3 $\frac{1}{2}$ lbs.	22.60

Refills (Lines only, without frame, with hook and ring)

Length	Feet, inches and 8ths	Feet, 10ths and 100ths ft.	Wt. each	Each
50 ft.	No. 02273	No. 02273D	1 $\frac{1}{4}$ lbs.	\$10.20
100 ft.	No. 02276	No. 02276D	2 lbs.	17.20

NOTE: Metric and Metric-English Graduation—"Derrick" Tapes can be so supplied.

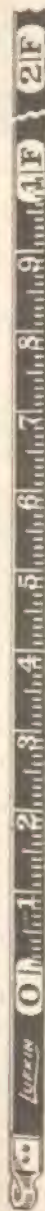
Chain Tapes

Data Applying to Pages 44 to 47

Graduation and Numbering of

"Hi-Way," "Pioneer" and "Canyon" Tapes Marked in Feet

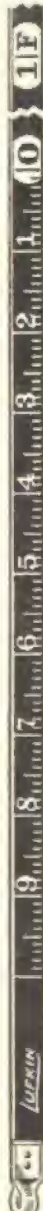
("Michigan" Tapes Are Same Except Their Finest Subdivisions 10ths of Feet)



"Regular"—Blank space at each end; first and last foot subdivided to 10ths and 100ths; balance graduated every foot. Supplied unless "A" or "B" is specified.



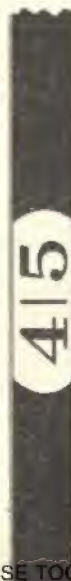
"Style A"—Measurement begins and ends at extreme outer ends of clips (rings); first and last foot subdivided to 10ths and 100ths; balance graduated every foot.



"Style B"—Blank space at each end; extra foot before zero subdivided to 10ths and 100ths numbered from right to left; balance graduated every foot except last foot in 100ths.

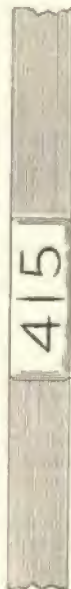
Full Size Illustrations of Surveyors Chain Tapes

Tape Widths, Graduations and Figures Are Shown Below in Actual Size and Style



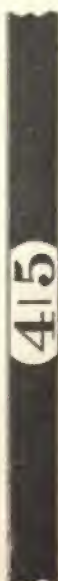
"Hi-Way" Drag Tape

No. 9100 Series, Listed Page 44.
Etched Markings, "Nubian" Finish.



"Michigan" (Babbitt) Tape

No. 3100 Series, Listed Page 46.



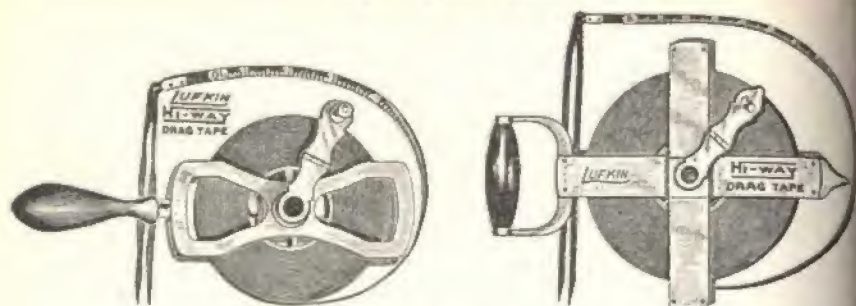
"Pioneer" Tape

No. 5100 Series, Listed Page 45.
Etched Markings, "Nubian" Finish.



"Canyon" Tape

No. 4100 Series, Listed Page 47.
Etched Markings, "Nubian" Finish.



HI-WAY Drag Tapes

No. 9100 Series

Width: $\frac{5}{16}$ Inch. Approximate Thickness .025 Inch. Etched Markings.

Extra Sturdy and Designed Especially for Highway, Railroad and Similar Work

A heavy Chain Tape of special tough steel and with extraordinary resistance to wear and tear. Has "Nubian" Finish. Prominent black lines and figures deeply cut into bright portions of the line which are in high relief, therefore markings most permanent, easy to read and to locate even by touch. Outwears all other Chain Tapes, and markings remain clear even after much dragging of the tape.

"Hi-Way" Tapes have $\frac{1}{2}$ railroad gage mark at $2' 4\frac{1}{4}"$ from zero. Heavy brass end clips. Pair of leather thongs with each tape. Line detachable from reel. Sturdy metal reel in dull nickel plated finish, with polished hardwood handle, large drum, and long, folding winding handle. Tapes over 100 feet long have 4-arm reel with "D" handle and spike end.

Regular Markings One Side Only—Feet only every foot, with end feet in 100ths.

Tapes Complete with Reel

★Blank Space Each End Reg. Markings	Measuring from Outer End of Clips Regular Markings	Extra Foot Before Zero in 100ths, Numbered Right to Left ★★ ★	Length	Weight Each	Price Each
No. 9050	No. 9050A	No. 9050B	50 ft.	2 $\frac{3}{4}$ lbs.	\$13.00
No. 9100	No. 9100A	No. 9100B	100 ft.	3 $\frac{1}{4}$ lbs.	15.80
No. 9150	No. 9150A	No. 9150B	150 ft.	5 lbs.	22.50
No. 9200	No. 9200A	No. 9200B	200 ft.	6 $\frac{3}{4}$ lbs.	28.80
No. 9300	No. 9300A	No. 9300B	300 ft.	8 $\frac{3}{4}$ lbs.	41.00

Tape Lines Only, without Reel, with Thongs

★Blank Space Each End Reg. Markings	Measuring from Outer End of Clips Regular Markings	Extra Foot Before Zero in 100ths, Numbered Right to Left ★★ ★	Length	Weight Each	Price Each
No. 09050	No. 09050A	No. 09050B	50 ft.	1 lb.	\$ 8.50
No. 09100	No. 09100A	No. 09100B	100 ft.	2 lbs.	11.30
No. 09150	No. 09150A	No. 09150B	150 ft.	3 lbs.	15.80
No. 09200	No. 09200A	No. 09200B	200 ft.	4 lbs.	20.30
No. 09300	No. 09300A	No. 09300B	300 ft.	6 lbs.	29.30

★These Tapes with blank space and with "regular markings" as described above are furnished unless "A" or "B" is specified.

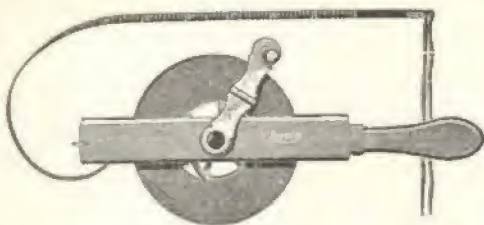
★★★"B" Tapes also have blank space both ends, and are marked feet only every foot.

For illustrations and full descriptions of the three styles, "Regular," "A" and "B," see page 43-B. See 43-B also for this tape line and its marking in actual size.

Reels Only

For 50 and 100-ft. Tapes.....	Each \$4.50	For 200-ft. Tape.....	Each \$ 9.10
For 150-ft. Tape.....	Each 6.80	For 300-ft. Tape.....	Each 11.50

NOTE: End Feet to Inches and Sths—"Hi-Way" Tapes so marked, no extra charge.



"Pioneer" Chain Tapes — No. 5100 Series

Width: $\frac{1}{4}$ Inch. Approximate Thickness: .020 Inch. Etched Markings.

A sturdy steel tape affording a fine degree of accuracy. It has "Nubian" Finish, and black lines and figures cut into raised bright portions of the line, legible and permanent. Heavy brass end clips. Pair of leather thongs with each tape. Polished hardwood reel with long, folding winding handle and large drum. Mountings nickel plated. Line detachable from reel.

Regular Markings, One Side Only

Tapes in feet — Feet only every foot, with end feet in 100ths. (See also ★★★)

Tapes in links — Links and poles, with end links in 10ths.

Tapes in meters — First and last decimeter in mm., balance of first and last meter in cm., balance of length in decimeters.

Tapes Complete with Reel

★ No.	★★ No.	★★★ No.	Length	Each
5050	5050A	5050B	50 foot	\$10.30
5100	5100A	5100B	100 foot	12.30
5150	5150A	5150B	150 foot	16.30
5200	5200A	5200B	200 foot	19.20
5300	5300A	5300B	300 foot	29.10
5500	5500A	5500B	500 foot	44.80
5066	.....	.....	100 link	10.70
5132	.....	.....	200 link	16.30
5330	.....	.....	500 link	32.30
5082M	.....	.....	25 meter	11.90
5100M	.....	.....	30 meter	13.60
5164M	.....	.....	50 meter	20.40
5328M	.....	.....	100 meter	36.70

Lines Only, without Reel, with Thongs

★ No.	★★ No.	★★★ No.	Length	Each
05050	05050A	05050B	50 foot	\$ 6.20
05100	05100A	05100B	100 foot	8.20
05150	05150A	05150B	150 foot	11.70
05200	05200A	05200B	200 foot	15.20
05300	05300A	05300B	300 foot	22.20
05500	05500A	05500B	500 foot	36.20
05066	.....	.....	100 link	6.60
05132	.....	.....	200 link	11.50
05330	.....	.....	500 link	24.90
05082M	.....	.....	25 meter	7.90
05100M	.....	.....	30 meter	9.50
05164M	.....	.....	50 meter	15.60
05328M	.....	.....	100 meter	28.50

*These have blank space each end. They are "Regular" and furnished unless "A" or "B" is specified.

★★"A" indicates measuring from outer end of clip to outer end of clip.

★★★"B" indicates extra foot before zero, in 100ths, numbered right to left.

For illustrations and full descriptions of the three styles, "Regular," "A" and "B," see page 43-B. See 43-B also for this tape line and its marking in actual size.

Reels Only

For 50 and 100-ft., 100-link, 25 and 30-meter Tapes..... Each \$4.10

For 150 and 200-ft., 200-link, and 50-meter Tapes..... Each 5.00

For 300-ft., and 500-link Tapes..... Each 7.40

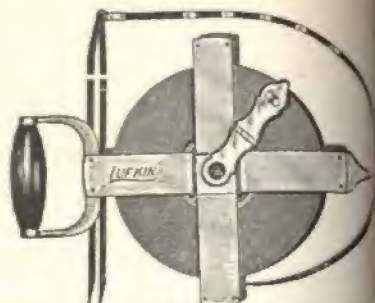
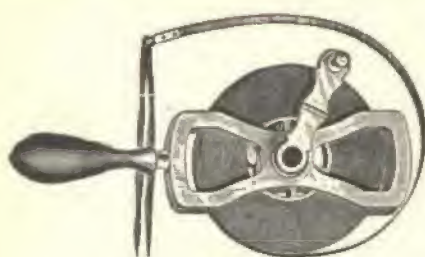
For 500-ft., and 100-meter Tapes..... Each 8.60

Shipping Weight: Average, for above tapes without reel, $1\frac{1}{2}$ lbs. per 100 feet.

NOTES: Half Railroad Gage Mark—This mark, $2' 4\frac{1}{4}"$ from zero, put on any above tapes, when specified, at no extra charge.

End Feet in Inches and 8ths—Above tapes so marked, no extra charge.

Metal Reel—At prices same as above, "Pioneer" ROSE TOOLS, INC. supplied with metal reel of the type shown page 46.



"Michigan" Chain Tapes — No. 3100 Series

Width: $\frac{5}{16}$ Inch. Approx. Thickness: .015 Inch. Markings on Babbitt Metal.

The "Michigan" is especially popular in railroad and highway work. Line and reel stand up well in hard service. Line is of extra tough steel, white metal coated. Graduations and figures are deeply stamped into babbitt metal. Line is detachable from reel, has heavy brass end clips, and is furnished with a pair of leather thongs. Sturdy metal reel, in dull nickel plated finish, with polished hardwood handle and long, folding winding handle. Tapes over 100 feet long have 4-arm reel with "D" handle and spike end. Spike aids in holding reel when line is being withdrawn or rewound.

Regular Markings, One Side Only

Tapes in feet — Feet only every foot, with end feet in 10ths. (See also ★★★)

Tapes in links — Links and poles, with end links in 10ths.

Tapes in meters — First and last meter in decimeters, balance in meters.

Tapes Complete with Reel

No.	★ No.	★★ No.	Length	Each
3050	3050A	3050B	50 foot	\$10.30
3100	3100A	3100B	100 foot	12.30
3150	3150A	3150B	150 foot	16.30
3200	3200A	3200B	200 foot	19.20
3300	3300A	3300B	300 foot	29.10
3500	3500A	3500B	500 foot	44.80
3066	.....	.....	100 link	10.70
3132	.....	.....	200 link	16.30
3082M	.....	.....	25 meter	11.90
3100M	.....	.....	30 meter	13.60
3164M	.....	.....	50 meter	20.40
3328M	.....	.....	100 meter	36.70

Lines Only, without Reel, with Thongs

No.	★ No.	★★ No.	Length	Each
03050	03050A	03050B	50 foot	\$ 6.2
03100	03100A	03100B	100 foot	8.3
03150	03150A	03150B	150 foot	11.7
03200	03200A	03200B	200 foot	15.2
03300	03300A	03300B	300 foot	22.2
03500	03500A	03500B	500 foot	36.2
03066	.....	.....	100 link	6.0
03132	.....	.....	200 link	11.5
03082M	.....	.....	25 meter	7.8
03100M	.....	.....	30 meter	9.0
03164M	.....	.....	50 meter	15.6
03328M	.....	.....	100 meter	28.3

*These have blank space each end. Furnished unless "A" or "B" is specified.

★★"A" indicates measuring from outer end of clip to outer end of clip.

★★★"B" indicates extra foot before zero, in 10ths, numbered right to left.

"B" Tapes also have blank space each end and are marked feet only every foot.

For illustration of tape and marking in actual size, see page 43-B.

Reels Only

For 50 and 100 ft., 100-link, 25 and 30-meter Tapes.....	Each	\$4.10
For 150-ft., 200-link, and 50-meter Tapes.....	Each	5.00
For 200-ft., Tape.....	Each	7.20
For 300-ft., and 100-meter Tapes.....	Each	9.30
For 500-ft., Tape.....	Each	11.30

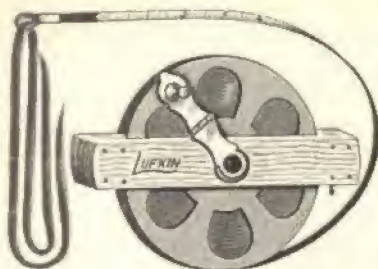
Shipping Weight: Average, for above tapes without reel, 2 lbs. per 100 feet.

NOTES: Half Railroad Gage Mark—This mark, $2' 4\frac{1}{4}"$ from zero, put on any above tape when specified, at no extra charge.

End Feet in Inches—Above tapes so marked, no extra charge.

$\frac{1}{8}$ Inch Wide "Michigan" Tapes—Can be supplied in lengths up to 300 feet.

Prices: Same as above. Specify as: No. 2100 and 02100 Series.



"Canyon" Chain Tapes

No. 4100 Series

Width: $\frac{1}{8}$ Inch. Approximate Thickness: .025 Inch. Etched Markings.

This is a sturdy steel tape and, being extra narrow, reduces wind resistance and handles well among obstructions and on rough ground. It has "Nubian" Finish. Markings and figures are black and cut into raised bright portions of the tape. A pair of leather thongs is furnished with each tape. Perforated disk reel of sheet steel, in dull nickel plated finish, and mounted in hardwood frame, with leather strap handle. Long, folding winding handle. Line has heavy brass clip and blank space at each end. It is detachable from reel.

Regular Markings, One Side Only

Tapes in feet — Feet only every foot, with end feet in 100ths.

Tapes in links — Links and poles, with end links in 10ths. ★

Tapes in meters—First and last decimeter in mm., balance of first and last meter in cm., balance of length in decimeters.

Tapes Complete with Reel

Number	Length	Each
4100	100 foot	\$20.40
4150	150 foot	23.70
4200	200 foot	26.60
4300	300 foot	36.00
4500	500 foot	51.00
4066	100 link	18.90
4132	200 link	23.70
4082M	25 meter	20.10
4100M	30 meter	21.70
4164M	50 meter	27.80
4328M	100 meter	42.80

Lines Only, without Reel, with Thongs

Number	Length	Each
04100	100 foot	\$ 8.20
04150	150 foot	11.70
04200	200 foot	15.20
04300	300 foot	22.20
04500	500 foot	36.20
04066	100 link	6.60
04132	200 link	11.50
04082M	25 meter	7.90
04100M	30 meter	9.50
04164M	50 meter	15.60
04328M	100 meter	28.50

Above Tapes marked in feet can, at same price, be furnished in three styles, "Regular," "A" and "B." For illustrations and full descriptions of these see page 43-B. See 43-B also for this tape line and its marking in actual size.

★Special "Canyon" Chain Tape Marked in Links: This Tape is of exactly same general description and same type of graduation as those above but 5 chains, i.e., 500 links long and marked in links. It is subdivided as follows:

First 10 links to 10ths of links. Balance of first 100 links to links.

Balance of tape every 10 links only.

No. 04330GL Chain Tape. Length: 5 chains. Without Reel. With Thongs. Each \$23.60
(Similar Tape can also be supplied 8 chains long)

Reels Only

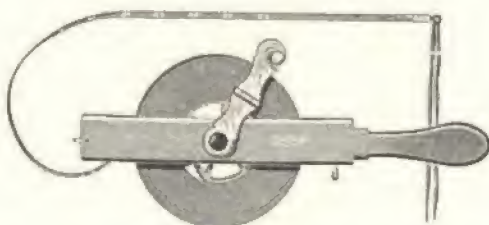
For 100, 150 and 200-ft., 100 and 200-link, and 25, 30 and 50 meter Tapes Each \$12.30
For 300 and 500-ft., and 100-meter Tapes Each 14.80

Shipping Weight: Average, for above tapes without reel, $1\frac{1}{4}$ lbs. per 100 feet.

Note: End Feet in Inches and 8ths—Above tapes so marked ROSE TOOLS, INC.

Topographic Trailer Tape

(Slope Correction Tape)



Used by the United States Forest Service, the Indian Service, by forest ranges, forestry schools, etc. A sturdy steel tape and reel. Line $\frac{1}{4}$ inch wide, approximately .020 inch thick. All graduations etched into raised bright portions, except zero, one and two chain points, which are on brass sleeves securely fastened to tape.

Tape $2\frac{1}{2}$ -chains (165 feet) long. Graduated first two chains (200 links) to links remaining half chain carries slope graduations numbered 5 to 50. Similar graduations numbered 6 to 80 and used for very steep slopes, appear on back of the tape starting opposite the 1-chain point.

Heavy brass end clips, and each tape supplied with a pair of leather thongs. Finished with or without reel. Line is readily detached from reel. Reel of polished hardwood with folding winding handle and nickel plated mountings.

Determine slope by using a topographic level. Reading the slope on the arc, measure two chains on the slope and as many graduations on the trailer as the arc reading shows. This distance measured on the slope represents a horizontal distance of two chains. In similar manner, one chain horizontal distance is determined by using the trailer graduations which appear on back of tape commencing opposite the 1-chain mark.

No.	Length	Each
5165T Topographic Trailer Tape with Reel and Thongs	$2\frac{1}{2}$ chains	\$20.75
05165T Topographic Trailer Tape without Reel, with Thongs	$2\frac{1}{2}$ chains	15.75
(Length of above tapes is 2 chains plus trailer)		
Weight each: Without reel 3 lbs.; With reel 4 lbs.		

NOTE: Tapes furnished with extra link before zero in 10ths, no extra charge.

Shoulders on Chain Tapes



In chaining some surveyors use tapes equipped with shoulders, one at zero and one at last graduation, to assist in locating and holding these points. These shoulders are securely riveted to the tape line. They can be supplied on any of our $\frac{1}{4}$ inch and $\frac{3}{8}$ inch wide Chain Tapes.

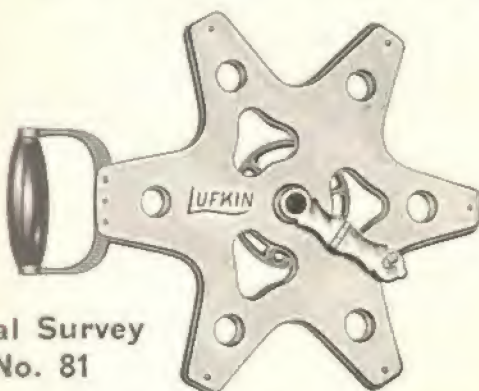
Shoulders. Extra, per pair \$0.80

Leather Thongs for Tapes

Thongs same as regularly furnished with our Chain Tapes. These are 36 inches long, $\frac{1}{4}$ inch wide. They are chrome tanned and practically unbreakable.

Leather Thongs Only. Per pair \$0.90

On This Page and the One Following We List Chain Tape Reels
Only of Patterns We Offer in Addition to Those
Shown with Tapes on Pages 44 to 47

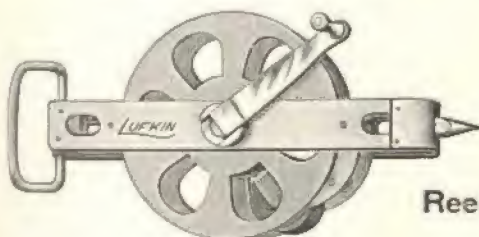


**Geological Survey
Reel No. 81**

A sturdy 6-arm Reel of rust-proof metal with sides perforated. Has long, folding winding handle, large drum and polished hardwood "D" carrying handle.

Made in one size only, 11 $\frac{1}{4}$ inch diameter. Will accommodate $\frac{1}{4}$ and $\frac{3}{16}$ inch Etched Chain Tapes 300 feet long, and $\frac{5}{16}$ inch Babbitt Tapes 200 feet long, i.e., lines such as Nos. 09300, 05300 and 03200 shown pages 44, 45 and 46.

No. 81 Reel . . . Each \$24.20



Reel No. 1914

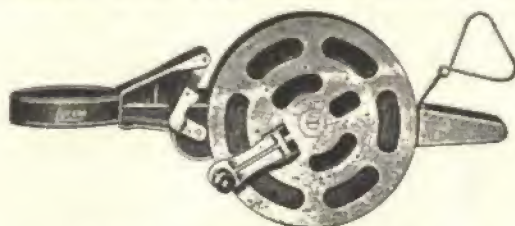
A metal reel with lock handle, sturdy yet of medium weight, and in dull nickel plated finish. Winding reel or spool is 7 inches in diameter, and frame in which it is mounted is 12 inches long overall, exclusive of carrying handle and spike end. The one-piece lock handle gives 5 inches winding leverage and has 2 inch hand knob easily giving firm hold. Winding handle turns over and hand knob then enters hole in either end of frame, thus locking the tape at any point. Hardwood tension roller rides on the tape, helping it to wind across evenly and tightly. Spike or point aids in holding reel firmly when line is being withdrawn or rewound. It is regularly supplied on all except 100 foot size.

Reel No. 1914 can be used with any of our Chain Tapes, pages 44 to 47, and is especially recommended for the longer ones and the babbitt tapes. It is made in three capacities, varying only in width. The inside width of tape spool for the 100 foot is $\frac{3}{4}$ inch, for the 200 and 300 foot is 1 $\frac{3}{4}$, and for the 500 foot is 2 $\frac{3}{4}$ inches.

In Ordering Always State Length, Width and Type of Line to Be Accommodated.

No. 1914	100 ft. capacity Reel	Each \$25.30
No. 1914	200 and 300 ft. capacity Reel	Each 28.60
No. 1914	500 ft. capacity Reel	ROSE TOOLS, INC 70

On This Page and the One Preceding We List Chain Tape Reels
Only of Patterns We Offer in Addition to Those
Shown with Tapes on Pages 44 to 47



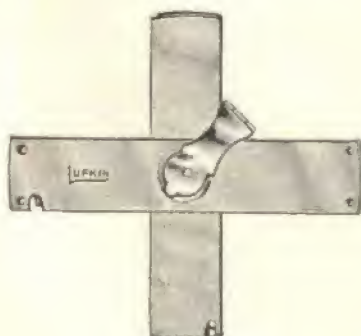
"Cripple Creek" Reel

A durable, heavy duty reel, of perforated disk type, 8 inches in diameter, of steel, nickel plated, mounted on an aluminum frame 15 inches long. The winding handle gives over 4 inches leverage and has extra large extension hand grip. Construction makes reeling up easy and rapid. Hardwood tension roller rides on the tape, aiding it to wind evenly and tightly. Frame has leather loop for carrying reel suspended.

Made in one size only, accommodating $\frac{1}{8}$ inch wide Etched Chain Tapes up to 1,000 feet long, $\frac{1}{4}$ inch up to 500, and Babbitt Tapes up to 300 feet.

Staff for "Cripple Creek" Reel is of hardwood, nicely polished. It is 40 inches long, has at one end aluminum socket head and set screw for mounting reel to staff, and at the other end steel point for firmly setting in the ground.

"Cripple Creek" Reel (without staff)	Each \$40.70
Staff for "Cripple Creek" Reel.....	Each 6.20



Reel No. 61

A compact, cross-arm all-metal reel in dull nickel plated finish. Has leather strap handle, and long, folding winding handle. With tape line removed, one cross-arm folds straight inside the other, as illustrated above, handy to carry. Made in four sizes.

Will accommodate $\frac{1}{4}$ inch Etched Chain Tapes, such as No. 05100 series, page 45.

In Ordering Always State Length of Tape Line to Be Accommodated.

No. 61	100 ft. capacity Reel	Each \$ 8.20
No. 61	150 and 200 ft. capacity Reel.....	Each 9.30
No. 61	300 ft. capacity Reel.....	Each 10.30
No. 61	500 ft. capacity Reel.....	Each 12.30

Surveyors Steel Arrows



No. 591



Nos. 592 to 595

All of these Arrows are of oil tempered spring steel, nicely formed and with sharp point. All are smooth and well finished.

No. 591 is the best Arrow made. It is nickel plated and highly polished. It has red linen flag securely sewed to ring. It is $\frac{3}{8}$ inch square, hence very stiff. Being square, measurements to or from it can be taken most accurately. Because of its size and shape it will stand up when reaming hole in hard soil or ice and sets very firmly.

Nos. 592, 593, 594 and 595 have ring enameled bright vermilion.

No.	Length	Diameter	Shape	Finish	Wt. per Set of Eleven	Price per Set of Eleven
591	14 inch	$\frac{3}{8}$ inch	Square	Nickel plated	2 lbs.	\$6.20
592	10 inch	$\frac{3}{8}$ inch	Round	Nickel plated	1 $\frac{1}{4}$ lbs.	2.70
593	14 inch	$\frac{3}{8}$ inch	Round	Nickel plated	1 $\frac{3}{4}$ lbs.	3.10
594	10 inch	$\frac{3}{4}$ inch	Round	Plain	$\frac{3}{4}$ lb.	1.70
595	14 inch	$\frac{3}{4}$ inch	Round	Plain	1 lb.	1.90

Packing: One set of Eleven Arrows in a box

No. 596 Steel Carrying Ring for Arrows.....Price, each \$0.50

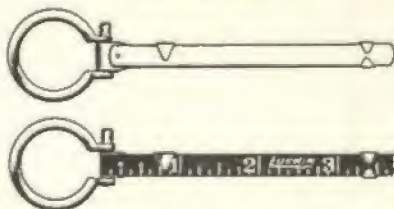
No. 597 Quiver for Carrying Eleven Arrows.....Price, each 5.00

Quiver is of genuine leather, round, with arrow-ring strap and belt loop.

Specify 10-inch or 14-inch Quiver.

Engineers Tape Ring No. 580

(PATENTED)



This patented Ring is far superior to all others. Riveted to its lip is a tape supporting strip, which greatly reduces chances of tape end breakage. Two of these Rings (one for each end) are furnished with each Engineers Pattern Tape cataloged pages 19 to 22 and 24 to 26.

These sturdy, round, finger Rings are $1\frac{1}{4}$ inch in diameter and are detachable. The steel tape supporting strip flexes and slides with the tape line, its outer end being held to the line only by overhanging lips, as illustrated. It underlies the tape line for $3\frac{1}{2}$ inches, so prevents sharp kinking which often means breakage. Sliding tape line through guide lips and over pin of this Ring, also detaching, is very simple. As also illustrated above, this Ring in no way interferes with reading of graduations. Ring supplied also separate from Tapes.

No. 580 Tape Rings. For Engineers $\frac{1}{4}$ inch ROSE TOOLS, INC. Per pair \$1.10

Detachable Hooks for Steel Tapes

Hooks Save Time and Labor and Every User of Steel Tapes Should Have One

These hooks oftentimes enable one man, unassisted, to take measurements. They are sturdy and are easily slipped on and off tape, yet cannot fall off. They are suitable for use on steel tapes such as the "Challenge" and others having the standard type, riveted-on, end ring. When applied to such tapes measuring from end of ring, zero falls at inside of hook. These hooks have toothed face and take firm, square grip on metal or other material as soon as tension is applied to the line, yet release themselves when tension is released.



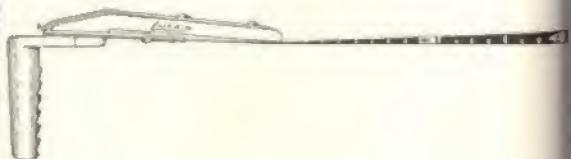
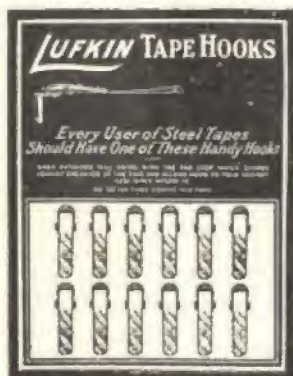
No. 551 Series Tape Hooks

(For General Description, See Above)

Hooks of Series 551 are made for $\frac{1}{4}$, $\frac{3}{8}$ and $\frac{1}{2}$ inch steel tapes. They are of brass heavily nickel plated. They have tape guide or channel, and spring for holding line in the guide.

No. 551	$\frac{1}{4}$ inch Tape Hook.....	Each	\$0.80
No. 552	$\frac{3}{8}$ inch Tape Hook.....	Each	.80
No. 552 $\frac{1}{2}$	$\frac{1}{2}$ inch Tape Hook.....	Each	.90

Packing: One dozen in a box



No. 252 Tape Hook

(For General Description, See Top of Page)

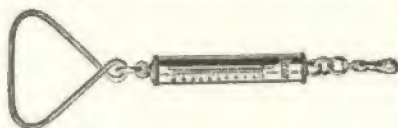
Hook No. 252 is made for only $\frac{3}{8}$ inch wide steel tapes. It is of composition metal. It tilts or swings with ring of tape, guarding against breakage and also permitting tape to be fully wound into case with hook attached. It is popular priced and put up on an attractive display card with easel.

No. 252	$\frac{3}{8}$ inch Tape Hook.....	Per doz.	\$3.30
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Packing: One dozen on display card

NOTES: Hook-Ring—For this permanently attached hook for $\frac{3}{8}$ inch steel tapes, see page 16. Other Permanently Attached Hooks—For such see Tree Tapes, page 18; Millmen Tapes, page 57.

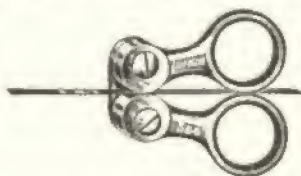
Tape Tension Handle



For applying and determining the exact tension applied. Used on steel tapes in precise work to insure accurate, uniform results. Fitted with snap and large hand ring. Made of brass, nickel plated. Capacity, 30 pounds, by half pounds.

No. 586 Tension Handle. Capacity, 30 lbs. Price, each \$6.20
Weight, each, 6 ozs.

Tape Clamp Handle



For positive and quick grip of a steel tape at any point, so light or heavy tension can readily be applied and held. Sturdy, made of brass, nickel plated. Applied and removed by simply operating the handle. Properly used, will not damage a tape in any way.

No. 584 Clamp Handle Price, each \$3.10
Weight, each, 5 ozs.

Temperature Scale

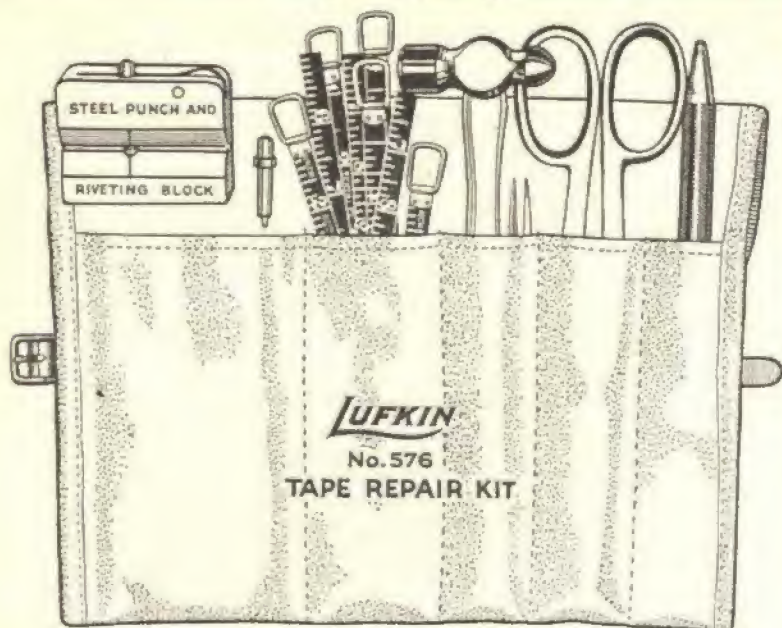


Scale in Actual Length for 100 Foot Tape

For most exact results the temperature in which a measuring tape is actually used must be taken into account. Temperature scale on a steel tape is a series of graduations at the last end, corresponding to the expansion and contraction of the tape over a range of temperatures, which are indicated opposite the various lines. This scale takes the place of the terminal mark, that point falling on the line in the scale representing the temperature prevailing.

We are prepared to put, on all steel tapes $\frac{1}{4}$ inch and over in width, Temperature Scale on basis of the Fahrenheit thermometer for those 50, 100, 150, 200 and 300 feet long; centigrade basis for metric tapes 20 and 100 meters long.

Extra for Temperature Scale ROSE TOOLS, INC. \$1.80



Tape Repair Kit

Suitable for Bench or Field Use. Put Up in Leatherette Case.

A sturdy and most practical all-purpose outfit for splicing steel tapes of all widths and weights. Suitable alike for tape users and for repair departments of engineering, instrument and supply houses, etc.

The solid steel punch block, $2\frac{1}{8}$ inches high, sits firmly on its $\frac{7}{8} \times 2\frac{3}{4}$ inch base. Its punching plunger has head for striking with hammer and at one blow will pierce one or two thicknesses of any tape. Light hammer tap on fulcrum lever raises the plunger. Front face of block has notch, tape slot and sighting line, so accurate locating of holes is simple. Back face has flush inset, hardened riveting block. Punching plunger is readily removed by withdrawing set screw, and one extra plunger is furnished with each Kit.

Kit complete is compactly put up in leatherette case with tie strap, and folds to $9 \times 3\frac{1}{2} \times 1\frac{1}{2}$ inches.

Kit contains the following items:

- | | |
|--|--|
| Steel Punch Block with Punching Plunger (also riveting block). | |
| Pair of Cutting Snips (8-inch). | Pair of Tweezers. |
| Riveting Hammer (8-inch). | Solid Steel Rivets (1,000 in screw top box). |
| Rivet Set. | Extra Punching Plunger (for punch block). |

Steel Tape Repair Pieces (one lot of various widths, weights and graduations, with and without ring).

Leatherette Case for all above.

No. 576 Tape Repair Kit. In Leatherette Case..... Each \$19.40

Weight of Kit Complete, $2\frac{3}{4}$ lbs.

Separate Parts of No. 576 Repair Kit

Punch Block with Plunger (also riveting block).....	Each	\$6.00
Rivet Set Only.....	Each	.60
Rivets Only (1,000 in screw top box).....	Lot	1.00



Eyelet Tape Repair Outfit

Designed for Field Use. Put Up in Leatherette Case.

The hand tool of this Outfit punches and splices steel tapes, using eyelets.

Outfit contains the following items:

Punch and Eyeleting Tool.	500 Short Eyelets.
Ungraduated Steel Tape Pieces.	4 "Eureka" Repair Sleeves.
500 Long Eyelets.	Leatherette Container for all above.

With this, secure and accurate splices as shown above can be quickly made on the job or elsewhere, often saving much valuable time. "Eureka" Sleeves are included as they are most practical for splicing heavy $\frac{1}{4}$ and $\frac{3}{8}$ inch Chain Tapes. A soldered splice is made by butting the broken ends together inside the Sleeve and burning out a match underneath it.

The Leatherette Container or Case has snap fastener. It keeps the whole Outfit intact and convenient to carry.

No. 577 Tape Repair Outfit. In Leatherette Case. Weight complete, $\frac{3}{4}$ lb. Each \$8.70

Separate Parts of No. 577 Repair Outfit

Hand Punch and Eyeleting Tool Complete.	Each	\$5.70
Eyelets Only (500 each, long and short)	Lot	2.00

"Eureka" Tape Repair Sleeves

An efficient little outfit to quickly splice steel tapes in the field. These thin, sheet metal sleeves are ready coated with solder and flux. Twelve sleeves of one size are packed in small, durable box with piece of emery cloth. Directions on Each Box.

First clean the tape ends and hammer them if there is any burr. Tape is then spliced accurately and easily by butting broken ends together inside sleeve, tapping sleeve until tight, burning out a match underneath it, and holding tape until cool. This securely welds sleeve to tape.

Always Specify "Eureka" Sleeves and Tape Width

For Tape Width	Price Per Box of 12
$\frac{1}{8}$ inch.....	\$0.90
$\frac{1}{4}$ inch.....	.90
$\frac{3}{8}$ inch.....	.90
$\frac{1}{2}$ inch.....	.90
$\frac{3}{4}$ inch.....	.90
$1\frac{1}{2}$ inch.....	ROSE TOOLS, INC.



Pocket Steel Tapes

Pocket Tapes are more universally used than any other class of measuring tapes. Therefore, they are carried by hardware and tool stores, engineering, technical and surgical supply houses, stationery, drug and department stores, novelty and gift shops. They are also extensively employed as advertising specialties, for such see page 248.

Below we list our highest grade yet most popular lines of Pocket Steel Tapes. With reasonable care they give long and satisfactory service. Flexible, finely tempered steel line, clearly marked and with "Nubian" Finish. Metal case heavily nickel plated, compact and neat yet sturdy; 36 inch tape case is $1\frac{3}{8}$ inch in diameter. Spring-wind with center push button and ratchet stop.

With One-Quarter Inch Tape Line

Marked Inches to 16ths, One Side Only

No.	143	145	146	148*
Length, inches	36	60	72	96
Weight, per doz., lbs.	$1\frac{1}{4}$	$1\frac{1}{4}$	$1\frac{3}{4}$	2
Price, per doz.	\$11.40	\$15.00	\$16.20	\$22.80

(★When marked feet, inches and 16ths, known as 148F. Price same as 148.)

Marked Feet, 10ths and 100ths of Feet One Side; Inches to 16ths Other Side

No.	143D	145D	146D	148D
Length, feet	3	5	6	8
Price, per doz.	\$12.00	\$16.20	\$18.60	\$25.80

Marked Inches to 16ths One Side; Millimeters Other Side

No.	143EM	145EM	146EM	148EM
Length, inches	36 (1 meter)	60 ($1\frac{1}{2}$ meter)	72 (2 meter)	96 ($2\frac{1}{2}$ meter)
Price, per doz.	\$12.00	\$16.20	\$18.60	\$25.80

Packing: One in a box, six in a carton

With Five-Sixteenths Inch Tape Line

No. 1512	12 foot. Marked feet, inches and 16ths, one side.....	Per doz. \$39.30
No. 1512D	12 foot. Marked feet, inches and 16ths, one side; feet, 10ths and 100ths feet, other side.....	Per doz. 45.60
No. 1512EM	12 foot ($3\frac{1}{2}$ meters). Marked feet, inches and 16ths, one side; millimeters other side.....	Per doz. 45.60

Packing: One in a box

Notes: Pocket Linen Tapes—See page 76.

Pocket Tape-Rules—See pages 78 to 85.

Number 143 Series and No. 1512 With Diameter Measurement—See page 61.

Number 1512CH Millmens Tape with Hook—See page 57.



"Marvel" Pocket Steel Tapes

The "Marvel" is a serviceable tape, both the line and the case being superior to those of other popular priced Pocket Steel Tapes. Steel line has clear markings and "Nubian" Finish. Square edge metal case, nickel plated. This tape is spring-wind, with center push button and ratchet stop.

With One-Quarter Inch Tape Line

Marked Inches to 16ths, One Side Only

No.	3143★	3145	3146
Length, inches	36	60	72
Weight, per doz., lbs.	$\frac{3}{4}$	1	1
Price, per doz.	\$6.80	\$10.20	\$11.50

Marked Inches to 16ths One Side; Millimeters Other Side

No.	3143EM★	3145EM	3146EM
Length, inches	36 (1 meter)	60 (1½ meter)	72 (2 meter)
Price, per doz.	\$8.20	\$11.50	\$13.60

Packing: $\frac{1}{2}$ dozen in a box



*The best sellers, Nos. 3143 and 3143EM, are regularly put up in an attractive display box, containing one dozen tapes. This has proven the most effective method of selling popular priced pocket tapes.

(These items can also be furnished in ordinary rather than display boxes, i.e., $\frac{1}{2}$ dozen to a box, as listed above. Specify if so wanted.)

Number		Length	Wt., Per Doz.	Per Doz.
3143	In Display Box	36 inch	$\frac{3}{4}$ lb.	\$6.80
3143EM	In Display Box	36 inch (1 meter)	$\frac{3}{4}$ lb.	8.20

NOTE: "Marvel" Pocket Linen Tapes—See page 77

ROSE TOOLS, INC.

Pocket Steel Tapes with Architects Scales



For quickly measuring scale drawings or blue prints, etc. Nos. 391 and 392 carry also standard linear measure. Steel line of highest grade, $\frac{1}{4}$ inch wide, clearly marked and with "Nubian" Finish. Compact and neat yet sturdy case, heavily nickel plated. Spring-wind, with center push button and ratchet stop.

No.	Length	Markings	Price
391	60 inch.	$\frac{1}{8}$ inch architects scale, 1 to 480, one side; inches to 16ths on other side.....	Per doz. \$16.20
392	60 inch.	$\frac{1}{4}$ inch architects scale, 1 to 240, one side; inches to 16ths on other side.....	Per doz. 16.20
393	60 inch.	$\frac{1}{8}$ inch architects scale on one side; $\frac{1}{4}$ inch architects scale on other side.....	Per doz. 16.20
Weight per doz. $1\frac{1}{2}$ lbs. Packing: One in a box, six in a carton			

Pocket Steel Tapes with Printers Measure



These are highest grade, $\frac{1}{4}$ inch wide, 3-foot pocket steel tapes, carrying standard linear measurement and type or printers measurement. They are especially handy for those who have to do with type and space, with printing and illustration, advertising, etc. They are of neatest pocket size, $1\frac{1}{2}$ inch diameter. The lines have "Nubian" Finish. Cases are compact yet sturdy, nickel plated, spring-wind with center push button and ratchet stop.

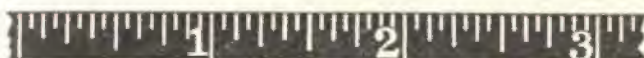
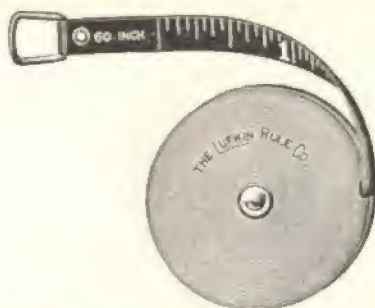
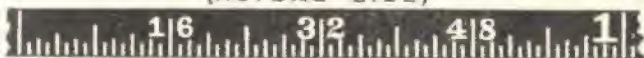
No. 143A has agate line measurement one side up to 504 agate lines (14 lines per inch, i.e., 36 inches); other side 36 standard inches to 16ths.

No. 143T has pica and nonpareil, i.e., 12 and 6-point type measurement up to 218 picas (approximately 36 inches) on one side; other side 36 standard inches to 16ths.

No. 143A Agate Tape. 36 inch.....Per doz. \$14.90

No. 143T Type Tape. 36 inch.....Per doz. 14.90

NOTES: Flexible-Rigid Tape-Rules with Type Measure—See page S5-B.
Type Rules, with and without hook—See page 134-B.

STANDARD INCHES TO 16THS
(ACTUAL SIZE)DIAMETER INCH TO 64THS
(ACTUAL SIZE)

Pocket Steel Tapes With Diameter Measure

Applied to circumference of pipe, rope, cable, poles, columns, shafts, or any circular object, these tapes give, at a direct reading, the diameter to 64ths or 100ths inch, also the circumference to 16ths inch. In addition they serve every purpose of standard pocket tapes. They may be used also simply for converting circumference to diameter and vice versa, by just turning over the line, as zeros of the two graduations coincide.

All lines are in "Nubian" Finish; all cases are nickel plated, spring-wind, with push button and ratchet stop. Lines of Series 143P and 143PD are of standard pocket tape weight.

Tapes of Series 643P are ideal wherever extra durability is required. *No. 645P is popular in the oil industry, also for measuring poles, etc. These Tapes have lines 50% heavier than standard weight and ring and case slightly larger. While extra sturdy, they will closely encircle small pipe, etc., and carry nicely in vest pocket.

With One-Quarter Inch Tape Line

Standard Inches to 16ths Throughout One Side
Diameter Inches to 64ths Throughout Other Side

Length, inches	36 (12 dia. in.)	60 (19 dia. in.)	72 (23 dia. in.)
Line standard weight	No. 143P	No. 145P	No. 146P
Price, per doz.	\$14.90	\$19.80	\$23.10
Line heavy	No. 643P	*No. 645P	
Price, per doz.	\$18.80	\$25.00	

Standard Inches to 16ths Throughout One Side
Diameter Inches to 100ths Throughout Other Side

Length, inches	36 (12 dia. in.)	60 (19 dia. in.)	72 (23 dia. in.)
Line standard weight	No. 143PD	No. 145PD	No. 146PD
Price, per doz.	\$14.90	\$19.80	\$23.10

With Five-Sixteenths Inch Tape Line

Standard Inches to 16ths Throughout One Side

Other Side Diameter Inches, With Extra Diameter Inch Before Zero to 64ths
No. 1512P Length: 144 inches (46 dia. inches)..... Price, per doz. \$45.00

A longer tape of medium weight. Spring-wind, of general description same as the tapes above and serving the same purposes.

Packing: One in a box, six in a carton.

NOTE: Other Tapes with Diameter Measure—See pages 17, 18, 59 and 62.

ROSE TOOLS, INC.

Pole Tapes



Six-foot steel tapes used to determine pole sizes. Principal users are telephone, telegraph, power, light and transit companies, pole suppliers and utility appraisers.

These tapes have blank space each end and "Nubian" Finish. They are extra heavy, $\frac{1}{4}$ inch wide, with heavy metal eye first end, one-inch harness ring last end, and without case. No. 1 is for measuring pole circumference; No. 1P, applied to pole circumference, shows at a direct reading both circumference and diameter.

No.		Length and Markings	Price
1	Pole Tape.	72 standard inches to 16ths, one side.....	Each \$2.60
1P	Pole Tape.	72 standard inches to 16ths, one side; 23 diameter inches to 64ths, other side.....	Each 3.60

Short Diameter Tapes without Cases



Most used on cable, conduit, cartridges and other small round objects. Applied to circumference, give at direct reading both circumference and diameter. Thin and very flexible, $\frac{1}{4}$ inch steel tapes, without cases or rings. One end $\frac{5}{8}$ inch wide, formed and with slot, as shown above, through which balance of tape passes to take close measurement, zero falling at square end of slot.

No.		Markings	Price
38P	Diameter Tape.	12 standard inches to 16ths one side; 4 diameter inches to 64ths other side.....	Each \$2.60
38PD	Diameter Tape.	12 standard inches to 16ths one side; 4 diameter inches to 100ths other side.....	Each 2.90

(Nos. 38P and 38PD can be supplied in 10-inch, 15-inch, and other lengths.)

NOTE: Other Tapes with Diameter Measure—See pages 17, 56 and 61.

LUFKIN

CHROME FACE STEEL TAPES



The Outstanding Development In The Manufacture of Measuring Tapes

Much of the story of Chrome Face Tapes is told in these seven words:

"Easy-to-read Markings That Are Durable"

They are the first Steel Tapes having markings that are both durable and easy to read, features of equal importance.

AMONG THEIR OTHER SUPERIOR QUALITIES ARE THESE:

Resist Rust.

Are Extra Strong.

Will Not Crack, Chip or Peel.

Cases and Frames of Improved Types.

Although Chrome Face Tapes are new on the market, they have been tested for many months under actual, severe conditions of use. Thus their ease of reading under various lights, their durability and other essential qualities have been most thoroughly proven.

Announcements will follow as these Tapes in other widths and patterns are steadily added to the assortment here catalogued.

**EASY TO READ
MARKINGS
THAT ARE DURABLE**



"Anchor" Chrome Face Steel Tapes

(Patent Pending)

No. C213 Series. $\frac{3}{8}$ Inch Wide.

Highest Grade Line and Leather Case.

Best Tape for General Measuring Purposes.

"Anchor" Chrome Face is an accurate Steel Tape, chrome plated, with jet black markings and satin chrome-white surface, unusually free of glare.

OUTSTANDING FEATURES:

Markings prominent and easy to read, even in poor or artificial light.

Markings durable. (Also very important).

Tape resists rust. (Heavily chrome plated).

Tape is extra strong. (Built up by plating).

Tape will not surface crack, chip or peel, and is hard, smooth and easy to clean. (Being of metal throughout).

Case and its mountings are durable and of outstanding beauty.

"Anchor" is the type of Steel Tape best for all usual measuring work, with case handiest and nicest to carry. This case is of finest, genuine leather, mahogany in color, closely hand-stitched over a substantial, plated, steel liner. Folding flush handle is opened by push pin. Tape has "Instantaneous" Readings; zero falls at outer end of stainless steel ring.

"Anchor" Chrome Face Tapes

Complete With Case.

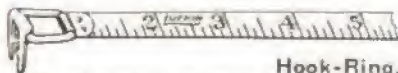
$\frac{3}{8}$ Inch Wide. Marked One Side Only.

Feet, inches and 8ths.....	No. C210	C213	C215	C216
Feet, 10ths and 100ths ft.....	No. C210D	C213D	C215D	C216D
Length, feet.....	25	50	75	100
Weight each, ozs.....	9	15	21	26
Price, each.....	\$5.40	\$6.60	\$8.00	\$11.30

Refills (Chrome Face Lines Only, Without Case)

$\frac{3}{8}$ Inch Wide. Marked One Side Only.

Feet, inches and 8ths.....	No. OC210	OC213	OC215	OC216
Feet, 10ths and 100ths ft.....	No. OC210D	OC213D	OC215D	OC216D
Length, feet.....	25	50	75	100
Price, each.....	\$3.60	\$4.50	\$6.00	\$7.80



Hook-Ring, Open and Closed

Any of above Tapes can be supplied with this Hook-Ring, instead of the standard ring pictured at top of this page. If Hook-Ring be wanted, prefix "H" to stock number as H-C213, H-OC213, etc., and add to above list prices 20¢ per tape.



"Anchor" Chrome Face Steel Tapes

(Patent Pending)

No. C313 Series. $\frac{1}{2}$ Inch Wide.

Highest Grade Line and Leather Case.

General Purpose Tape for Oil Field and Other Heavy Duty.

"Anchor" Chrome Face is an accurate Steel Tape, chrome plated, with jet black markings and satin chrome-white surface, unusually free of glare.

OUTSTANDING FEATURES:

Markings easy to read, and this wider line accommodates largest figures.

Markings durable. (Also very important).

Tape resists rust. (Heavily chrome plated).

Tape is extra strong. ($\frac{1}{2}$ Inch wide and built up by plating).

Tape will not surface crack, chip or peel, and is hard, smooth and easy to clean. (Being of metal throughout).

Case and its mountings are durable and of outstanding beauty.

"Anchor" Tapes are suitable for all usual measuring and have case handiest and nicest to carry. This width, $\frac{1}{2}$ inch, is popular in the oil industry and for other heavy duty. Case of finest, genuine leather, mahogany in color, closely hand-stitched over substantial, plated steel liner. Folding flush handle is opened by push pin. Tape has "Instantaneous" Readings; zero falls at outer end of stainless steel ring.

"Anchor" Chrome Face Tapes Complete With Case.

$\frac{1}{2}$ Inch Wide. Marked One Side Only.

	No. C310	C313	C315	C316
Feet, inches and 8ths	No. C310D	C313D	C315D	C316D
Feet, 10ths and 100ths ft.	25	50	75	100
Length, feet	10	19	26	31
Weight each, ozs.	\$6.30	\$7.50	\$9.90	\$12.50
Price, each				

Refills (Chrome Face Lines Only, Without Case)

$\frac{1}{2}$ Inch Wide. Marked One Side Only.

	No. OC310	OC313	OC315	OC316
Feet, inches and 8ths	No. OC310D	OC313D	OC315D	OC316D
Feet, 10ths and 100ths ft.	25	50	75	100
Length, feet	\$4.50	\$5.70	\$8.30	\$10.50
Price, each				

NOTE: $\frac{1}{4}$ Inch Wide "Anchor" Chrome Face Tapes—See ROSE TOOLS, INC.

**EASY TO READ
MARKINGS
THAT ARE DURABLE**



"Leader" Chrome Face

Steel Tapes

(Patent Pending)

No. C253 Series. $\frac{3}{8}$ Inch Wide.

The Popular Priced Chrome Face Tape.

Accurate.

Serviceable.

Attractive.

"Leader" Chrome Face is a Steel Tape, chrome plated, with jet black markings and satin chrome-white surface, unusually free of glare. While lowest in price of Tapes of its kind, it is of same weight as our other $\frac{3}{8}$ -inch Chrome Face Lines, has the same superior features (detailed below), and ease of striking appearance and of a type that has proven very satisfactory. Therefore "Leader" appeals alike to the user and the dealer.

OUTSTANDING FEATURES:

Markings easy to read, even in poor or artificial light.

Markings durable. (Also very important).

Tape resists rust. (Heavily chrome plated).

Tape is extra strong. (Built up by plating).

Tape will not surface crack, chip or peel, and is hard, smooth and easy to clean.

(Being of metal throughout).

This is the article for those mechanics and the thousands of others who need an accurate, long Steel Tape, easy to read and serviceable, yet moderate in price. Durable case of mottled, black, imitation leather. Has substantial, plated, steel liner and a $\frac{3}{8}$ inch wide, flat, flush, nickel plated edge band. Folding flush handle is opened by push pin. Tape has "Instantaneous" Readings; zero falls at outer end of stainless steel ring.

"Leader" Chrome Face Tapes

$\frac{3}{8}$ Inch Wide. Marked One Side Only.

Feet, inches and 8ths	No.	C250	C253	C255	C256
Length, feet		25	50	75	100
Weight each, ozs.		9	15	20	25
Price, each		\$3.50	\$4.25	\$5.75	\$7.25



Hook-Ring, Open and Closed

Any of above Tapes can be supplied with this Hook-Ring, instead of the standard ring pictured at top of this page. If Hook-Ring be wanted, prefix "H" to stock number as H-C253, etc., and add to above list prices 20¢ per tape.



"Atlas" Chrome Face

Oil Gaging Steel Tapes

(Patent Pending)

Extra Heavy Line. 1/2 Inch Wide. With 20-ounce Plumb Bob.

"Atlas", that most popular of all Gaging Tapes, is now offered also with Chrome Face Line. Chrome Face is a Steel Tape, chrome plated, with jet black markings and satin chrome-white surface, unusually free of glare.

OUTSTANDING FEATURES:

Markings easy to read, even in poor or artificial light.

Markings durable. (Also very important!)

Oil line easy to locate. (Good contrast, without glare).

Tape resists rust. (Heavily chrome plated).

Tape is extra strong. (50% heavier than standard weight steel lines, and then built up by plating).

Tape will not surface crack, chip or peel, is hard, smooth and easy to clean. (Being of metal throughout).

Frame sturdy and resists rust. (Of steel, case hardened, black finish).

Operation smooth and rapid. (Frame has tape roller at both ends, large drum and lock handle).

Hardwood handle affords firm hold. Tape has "Instantaneous" Readings. The Plumb Bob, No. 590, is of solid brass, round, with tapered point, weight 20 ounces, diameter one inch, length 6 3/4 inches. Bob and swivel snap included in measurement.

1/2 Inch, Heavy Tapes Complete with Frame and Bob Marked Feet, Inches and 8ths, One Side Only

Number	Length		Wt. Each	Each
C1290S with 590	25 ft.	"Atlas" Chrome Face Gaging Tape.	3 lbs.	\$12.70
C1291S with 590	33 ft.	"Atlas" Chrome Face Gaging Tape.	3 1/4 lbs.	13.60
C1293S with 590	50 ft.	"Atlas" Chrome Face Gaging Tape.	3 1/2 lbs.	15.60

Lines Only for Above, Fitted for but Without Bob, and Without Frame

"Atlas" Chrome Face Gaging Line Only. 25 ft. No. **OC1290S for 590** . . . Each \$5.40

"Atlas" Chrome Face Gaging Line Only. 33 ft. No. **OC1291S for 590** . . . Each 6.20

"Atlas" Chrome Face Gaging Line Only. 50 ft. No. **OC1293S for 590** . . . Each 7.20

NOTE: Other Plumb Bobs - Shown page 42. Deduct or add difference in price of bob.

ROSE TOOLS, INC.



Series
C290
with
590

EASY TO READ
MARKINGS
THAT ARE DURABLE



Series
C1290
with
590

Chrome Face Oil Gaging Steel Tapes

(Patent Pending)

1/2 Inch Wide. With 20-ounce Plumb Bob.

These are Gaging Tapes of standard pattern and weight but with the new line, Chrome Face. This is a Steel Tape, chrome plated, with jet black markings and satin chrome-white surface, unusually free of glare.

OUTSTANDING FEATURES:

Markings easy to read, even in poor or artificial light.

Markings durable. (Also very important).

Oil line easy to locate. (Good contrast, without glare).

Tape resists rust. (Heavily chrome-plated).

Tape is extra strong. (Built up by plating).

Tape will not surface crack, chip or peel, and is hard, smooth, and easy to clean. (Being of metal throughout).

Frame sturdy and resists rust. (Of steel, case hardened, black finish).

All Frames have tape roller at both ends; all have hardwood handle, affording firm hold. Those of Series **C290** have folding winding handle, those of **C1290**, one-piece lock handle. Tapes have "Instantaneous" Readings. The Plumb Bob, No. 590, is of solid brass, round, with tapered point, weight 20 ounces, diameter one inch, length 6 3/4 inches. Bob and swivel snap are included in measurement.

1/2 Inch Tapes Complete with Frame and Bob Marked Feet, Inches and 8ths, One Side Only

Number	Length		Frame	Wt. Each	Each
C290 with 590	25 ft.	Chrome Face Gaging Tape.	Folding Handle.	2 1/2 lbs.	\$ 9.00
C291 with 590	33 ft.	Chrome Face Gaging Tape.	Folding Handle.	2 3/4 lbs.	11.00
C293 with 590	50 ft.	Chrome Face Gaging Tape.	Folding Handle.	3 lbs.	12.80
C1290 with 590	25 ft.	Chrome Face Gaging Tape.	Lock Handle.	2 1/2 lbs.	9.00
C1291 with 590	33 ft.	Chrome Face Gaging Tape.	Lock Handle.	2 3/4 lbs.	11.00
C1293 with 590	50 ft.	Chrome Face Gaging Tape.	Lock Handle.	3 lbs.	12.80

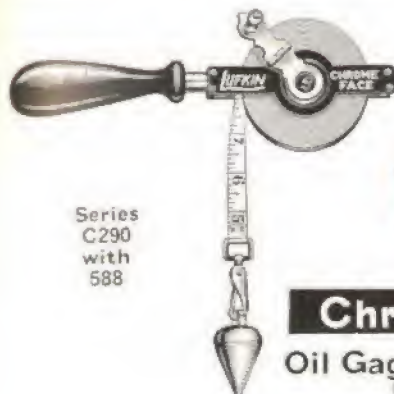
Lines Only for Above, Fitted for but without Bob, and without Frame

Chrome Face Gaging Line Only, 25 ft. No. **OC290 for 590** or **OC1290 for 590** Each \$5.20

Chrome Face Gaging Line Only, 33 ft. No. **OC291 for 590** or **OC1291 for 590** Each 5.50

Chrome Face Gaging Line Only, 50 ft. No. **OC293 for 590** or **OC1293 for 590** Each 6.50

NOTE: Lighter Weight Bob - For above Tapes so equipped see page 62-G.



Series
C290
with
588



Series
C1290
with
588

EASY TO READ
MARKINGS
THAT ARE DURABLE

Chrome Face Oil Gaging Steel Tapes

(Patent Pending)

1/2 Inch Wide. With 6-ounce Plumb Bob.

These are Gaging Tapes of standard pattern and weight but with the new line, Chrome Face. This is a Steel Tape, chrome plated, with jet black markings and satin chrome-white surface, unusually free of glare.

OUTSTANDING FEATURES:

Markings easy to read, even in poor or artificial light.

Markings durable. (Also very important).

Oil line easy to locate. (Good contrast, without glare).

Tape resists rust. (Heavily chrome plated).

Tape is extra strong. (Built up by plating).

Tape will not surface crack, chip or peel, and is hard, smooth, and easy to clean. (Being of metal throughout).

Frame sturdy and resists rust. (X) steel, case hardened, black finish.

All Frames have tape roller at both ends; all have hardwood handle, affording firm hold. Those of Series **C290** have folding winding handle, those of **C1290**, one-piece lock handle. Tapes have "Instantaneous" Readings. The Plumb Bob, No. **588**, is of solid brass, cone shaped, weight 6 ounces, greatest diameter 1 1/4 inches, length 2 3/8 inches. Bob and swivel snap are included in measurement.

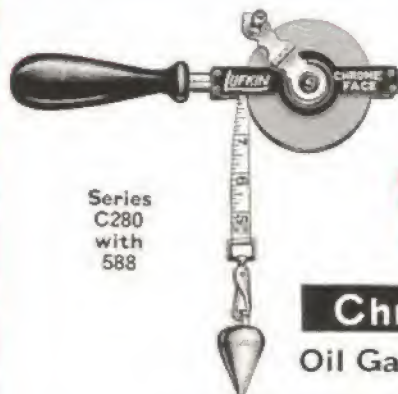
1/2 Inch Tapes Complete with Frame and Bob Marked Feet, Inches and 8ths, One Side Only

Number	Length	Frame	Wt. Each	Each
C290 with 588	25 ft.	Chrome Face Gaging Tape, Folding Handle.	1 3/4 lbs.	\$ 9.10
C291 with 588	33 ft.	Chrome Face Gaging Tape, Folding Handle.	1 3/4 lbs.	10.50
C293 with 588	50 ft.	Chrome Face Gaging Tape, Folding Handle.	2 1/4 lbs.	12.30
C1290 with 588	25 ft.	Chrome Face Gaging Tape, Lock Handle.	1 3/4 lbs.	9.10
C1291 with 588	33 ft.	Chrome Face Gaging Tape, Lock Handle.	1 3/4 lbs.	10.50
C1293 with 588	50 ft.	Chrome Face Gaging Tape, Lock Handle.	2 1/4 lbs.	12.30

Lines Only for Above, Fitted for but without Bob, and without Frame

Chrome Face Gaging Line Only.	25 ft. No. OC290 for 588 or OC1290 for 588	Each \$5.20
Chrome Face Gaging Line Only.	33 ft. No. OC291 for 588 or OC1291 for 588	Each 5.50
Chrome Face Gaging Line Only.	50 ft. No. OC293 for 588 or OC1293 for 588	Each 6.50

NOTE: Heavier Bob - For above Tapes so equipped. **ROSE TOOLS, INC.**



Series
C280
with
588



Series
C1280
with
588

EASY TO READ
MARKINGS
THAT ARE DURABLE

Chrome Face Oil Gaging Steel Tapes

(Patent Pending)

$\frac{3}{8}$ Inch Wide. With 6-ounce Plumb Bob.

These are Gaging Tapes of standard pattern and weight but with the new line, Chrome Face. This is a Steel Tape, chrome plated, with jet black markings and satin chrome-white surface, unusually free of glare.

OUTSTANDING FEATURES:

Markings easy to read, even in poor or artificial light.

Markings durable. (Also very important).

Oil line easy to locate. (Good contrast, without glare).

Tape resists rust. (Heavily chrome plated).

Tape is extra strong. (Built up by plating).

Tape will not surface crack, chip or peel, and is hard, smooth, and easy to clean. (Being of metal throughout).

Frame sturdy and resists rust. (Of steel, case hardened, black finish).

All Frames have tape roller at both ends; all have hardwood handle, affording firm hold. Those of Series **C280** have folding winding handle, those of **C1280**, one-piece lock handle. Tapes have "Instantaneous" Readings. The Plumb Bob, No. **588**, is of solid brass, cone shaped, weight 6 ounces, greatest diameter $1\frac{1}{4}$ inches, length $2\frac{3}{8}$ inches. Bob and swivel snap are included in measurement.

$\frac{3}{8}$ Inch Tapes Complete With Frame and Bob Marked Feet, Inches and 8ths, One Side Only

Number	Length		Frame	Wt. Each	Each
C280 with 588	25 ft.	Chrome Face Gaging Tape.	Folding Handle.	$1\frac{1}{2}$ lbs.	\$ 8.10
C281 with 588	33 ft.	Chrome Face Gaging Tape.	Folding Handle.	$1\frac{5}{8}$ lbs.	9.10
C283 with 588	50 ft.	Chrome Face Gaging Tape.	Folding Handle.	$1\frac{7}{8}$ lbs.	11.00
C1280 with 588	25 ft.	Chrome Face Gaging Tape.	Lock Handle.	$1\frac{1}{2}$ lbs.	8.10
C1281 with 588	33 ft.	Chrome Face Gaging Tape.	Lock Handle.	$1\frac{5}{8}$ lbs.	9.10
C1283 with 588	50 ft.	Chrome Face Gaging Tape.	Lock Handle.	$1\frac{7}{8}$ lbs.	11.00

Lines Only for Above, Fitted for but without Bob, and without Frame

Chrome Face Gaging Line Only. 25 ft. No. **OC280 for 588** or **OC1280 for 588** Each \$4.20

Chrome Face Gaging Line Only. 33 ft. No. **OC281 for 588** or **OC1281 for 588** Each 4.50

Chrome Face Gaging Line Only. 50 ft. No. **OC283 for 588** or **OC1283 for 588** Each 5.20



Series
C280
with
590

EASY TO READ
MARKINGS
THAT ARE DURABLE



Series
C1280
with
590

Chrome Face Oil Gaging Steel Tapes

(Patent Pending)

$\frac{3}{8}$ Inch Wide. With 20-ounce Plumb Bob.

These are Gaging Tapes of standard pattern and weight but with the new line, Chrome Face. This is a Steel Tape, chrome plated, with jet black markings and satin chrome-white surface, unusually free of glare.

OUTSTANDING FEATURES:

Markings easy to read, even in poor or artificial light.

Markings durable. (Also very important).

Oil line easy to locate. (Good contrast, without glare).

Tape resists rust. (Heavily chrome plated).

Tape is extra strong. (Built up by plating).

Tape will not surface crack, chip or peel, and is hard, smooth, and easy to clean.

(Being of metal throughout).

Frame sturdy and resists rust. (Of steel, case hardened, black finish).

All Frames have tape roller at both ends; all have hardwood handle, affording firm hold. Those of Series **C280** have folding winding handle, those of **C1280**, one-piece lock handle. Tapes have "Instantaneous" Readings. The Plumb Bob, No. 590, is of solid brass, round, with tapered point, weight 20 ounces, diameter one inch, length $6\frac{3}{4}$ inches. Bob and swivel snap are included in measurement.

$\frac{3}{8}$ Inch Tapes Complete with Frame and Bob Marked Feet, Inches and 8ths, One Side Only

Number	Length		Frame	Wt. Each	Each
C280 with 590	25 ft.	Chrome Face Gaging Tape.	Folding Handle.	2 $\frac{3}{4}$ lbs.	\$ 8.60
C281 with 590	33 ft.	Chrome Face Gaging Tape.	Folding Handle.	2 $\frac{1}{2}$ lbs.	9.60
C283 with 590	50 ft.	Chrome Face Gaging Tape.	Folding Handle.	2 $\frac{3}{4}$ lbs.	11.50
C1280 with 590	25 ft.	Chrome Face Gaging Tape.	Lock Handle.	2 $\frac{3}{4}$ lbs.	8.60
C1281 with 590	33 ft.	Chrome Face Gaging Tape.	Lock Handle.	2 $\frac{1}{2}$ lbs.	9.60
C1283 with 590	50 ft.	Chrome Face Gaging Tape.	Lock Handle.	2 $\frac{3}{4}$ lbs.	11.50

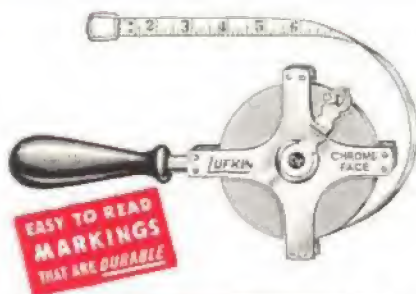
Lines Only for Above, Fitted for but without Bob, and without Frame

Chrome Face Gaging Line Only. 25 ft. No. **OC280** for 590 or **OC1280** for 590 Each \$4.20

Chrome Face Gaging Line Only. 33 ft. No. **OC281** for 590 or **OC1281** for 590 Each 4.50

Chrome Face Gaging Line Only. 50 ft. No. **OC283** for 590 or **OC1283** for 590 Each 5.20

NOTE: Lighter Weight Bob - For above Tapes so equipped **ROSE TOOLS, INC.**



Chrome Face

Steel Frame Tapes

(Patent Pending)

No. C283 Series. $\frac{3}{8}$ Inch Wide. With Folding Handle.

These are Chrome Face Steel Tapes assembled on metal frames. They are suitable for general measuring, and, as they do not readily clog with dirt, Frame Tapes are, for some classes of work, preferred to Tapes in cases.

Chrome Face is a Steel Tape, chrome plated, with jet black markings and satin chrome-white surface, unusually free of glare.

OUTSTANDING FEATURES:

Markings easy to read, even in poor or artificial light.

Markings durable. (Also very important).

Tape resists rust. (Heavily chrome plated).

Tape is extra strong. (Built up by plating).

Tape will not surface crack, chip or peel, and is hard, smooth and easy to clean. (Being of metal throughout).

The metal frames of these Tapes are sturdy and together with their mountings are heavily nickel plated. They have tape roller on each arm and are equipped with ample size, removable, hardwood handle. These Tapes have "Instantaneous" Readings; zero falls at outer end of stainless steel ring.

The 50-foot length has 2-arm frame, the 75 and 100-foot have 4-arm frame.

Chrome Face Steel Tapes

Complete With Frame.

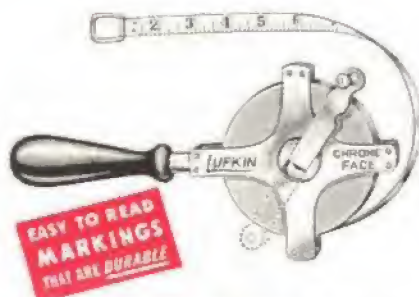
$\frac{3}{8}$ Inch Wide. Marked One Side Only.

Feet, inches and 8ths	No. C283	C285	C286
Feet, 10ths and 100ths ft.	No. C283D	C285D	C286D
Length, feet	50	75	100
Weight each, ozs	24	30	35
Price, each	\$8.40	\$11.50	\$14.30

Refills (Chrome Face Lines Only, Without Frames)

$\frac{3}{8}$ Inch Wide. Marked One Side Only.

Feet, inches and 8ths	No. OC283	OC285	OC286
Feet, 10ths and 100ths ft.	No. OC283D	OC285D	OC286D
Length, feet	50	75	100
Price, each	\$4.50	\$6.00	\$7.80



Chrome Face

Steel Frame Tapes

(Patent Pending)

No. C1283 Series. $\frac{3}{8}$ Inch Wide. With Lock Handle.

These Tapes are suitable for general measuring. They are Chrome Face Steel Lines on Lock Handle Frames. As Tapes in frames do not readily clog with dirt and require the minimum of care they are, for some kinds of work, preferred to those in cases.

Chrome Face is a Steel Tape, chrome plated, with jet black markings and satin chrome-white surface, unusually free of glare.

OUTSTANDING FEATURES:

Markings easy to read, even in poor or artificial light.

Markings durable. (Also very important).

Tape resists rust. (Heavily chrome plated).

Tape is extra strong. (Built up by plating).

Tape will not surface crack, chip or peel, and is hard, smooth and easy to clean. (Being of metal throughout).

These sturdy metal frames are heavily nickel plated. They have lock winding handle and ample size, hardwood handle, which is removable. On each arm they have tape holder. These Tapes have "Instantaneous" Readings. Zero falls at outer end of stainless steel ring.

The 50-foot length has 2-arm frame, while the 100-foot has 4-arm frame.

Chrome Face Steel Tapes

Complete With Frame.

$\frac{3}{8}$ Inch Wide. Marked One Side Only.

Feet, inches and 8ths	No. C1283
Feet, 10ths and 100ths ft.	No. C1283D
Length, feet	50
Weight each, ozs.	24
Price, each	\$8.40

C1286
C1286D
100
35
\$14.30

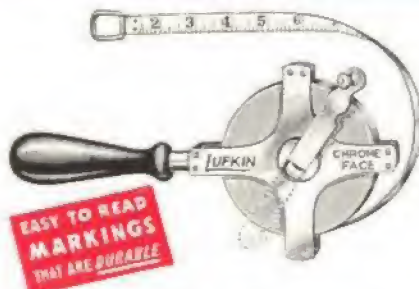
Refills (Chrome Face Lines Only, Without Frame)

$\frac{3}{8}$ Inch Wide. Marked One Side Only.

Feet, inches and 8ths	No. OC1283
Feet, 10ths and 100ths ft.	No. OC1283D
Length, feet	50
Price, each	\$4.50

OC1286
OC1286D
100
\$7.80

ROSE TOOLS, INC.



Chrome Face

Steel Frame Tapes

(Patent Pending)

No. C1293 Series. $\frac{1}{2}$ Inch Wide. With Lock Handle.

These Tapes are suitable for general measuring. They are Chrome Face Steel Lines on Lock Handle Frames. As Tapes in frames do not readily clog with dirt and require the minimum of care they are, for some kinds of work, preferred to those in cases.

Chrome Face is a Steel Tape, chrome plated, with jet black markings and satin chrome-white surface, unusually free of glare.

OUTSTANDING FEATURES:

Markings easy to read, even in poor or artificial light.

Markings durable. (Also very important).

Tape resists rust. (Heavily chrome plated).

Tape is extra strong. (Built up by plating).

Tape will not surface crack, chip or peel, and is hard, smooth and easy to clean.

(Being of metal throughout).

These sturdy metal frames are heavily nickel plated. They have lock winding handle and ample size, hardwood handle, which is removable. On each arm they have tape roller. These Tapes have "Instantaneous" Readings. Zero falls at outer end of stainless steel ring.

The 50-foot length has 2-arm frame, while the 100-foot has 4-arm frame.

Chrome Face Steel Tapes

Complete With Frame.

$\frac{1}{2}$ Inch Wide. Marked One Side Only.

Feet, inches and 8ths	No. C1293	C1296
Feet, 10ths and 100ths ft.	No. C1293D	C1296D
Length, feet	50	100
Weight each, ozs.	28	44
Price, each	\$9.70	\$16.50

Refills (Chrome Face Lines Only, Without Frame)

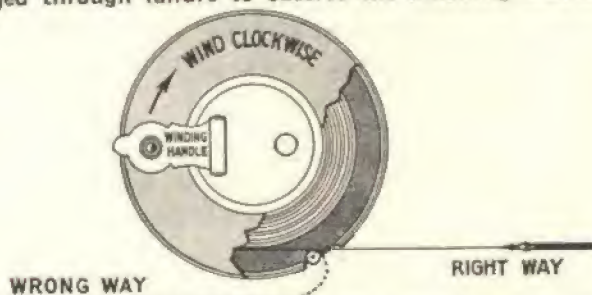
$\frac{1}{2}$ Inch Wide. Marked One Side Only.

Feet, inches and 8ths	No. OC1293	OC1296
Feet, 10ths and 100ths ft.	No. OC1293D	OC1296D
Length, feet	50	100
Price, each	\$5.70	\$10.50

Proper Handling of Steel Tapes

To give long, satisfactory service, a Measuring Tape, like any fine tool, must have proper care. Due to its very nature, a Steel Tape should be used with reasonable caution, to avoid kinks, breaks or other damage.

We guarantee our Tapes against faulty materials and workmanship. We should not be expected to make any adjustment on a Steel Tape damaged through failure to observe the following instructions.



NEVER run the line in or out of container (case, frame or reel) at a sharp angle over the mouthpiece or edge of opening.

(Doing so, especially under tension, will distort and leave the line either kinked or with a permanent curl.)

ALWAYS hold case in such position and direction that the line leaves and enters it as flat and straight as possible in relation to the portion still in case.

(Sideways pull will cut the container and wear or fracture the line.)

ALWAYS wind clockwise, **NEVER** the reverse way (backward).

(Turning handle backward will kink if not snap the line.)

AVOID, as far as practical, dirt accumulation in case.

OIL occasionally the bearings of the winding drum.

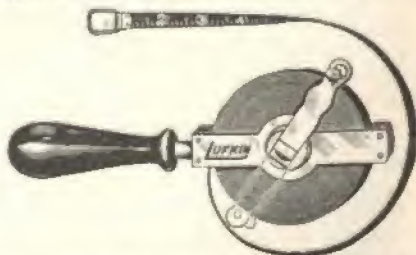
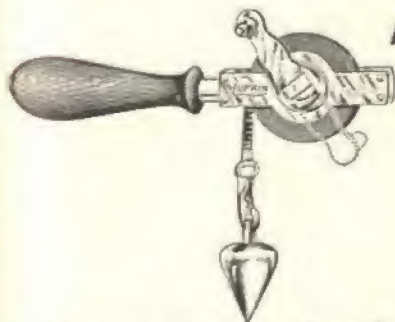
Sometimes line may appear to bind in case. To release it, strike flat side of case against a flat surface.

Handling of Pocket Tapes and Spring-Wind Tape-Rules

When push button is released, guide the line into the case with your hand.

(If not so controlled, it may suffer severe damage.)

Assembly of All Gaging Tapes and All Other 2-Arm Frame Tapes



NOTE the line leaves the coil at handle end of frame. Pay attention to this whenever attaching an old or a new line to frame.

ROSE TOOLS, INC.

Special Graduations on Steel Tapes

Following are some of the special graduations we are equipped to put on Steel Tapes of widths indicated. Prices for these special markings quoted on request.

ONE-QUARTER INCH STEEL TAPES

- | | |
|---|--|
| Feet and inches only, inches not subdivided. | Links and poles or rods. (Also links to 10ths and to 100ths throughout). |
| Feet and 10ths only, 10ths not subdivided. | |
| Feet, inches and quarters. | Metric, to $\frac{1}{2}$ centimeters throughout. |
| Feet, inches and 32nds. | Diameter measurements. |
| Feet, inches and 8ths, left hand (numbered right to left). | Vara measurements. |
| Feet, 10ths and 100ths of feet, left hand (numbered right to left). | Nya and Gamla (Swedish) measurements. |
| Feet, 10ths and 100ths of feet, upper edge (regular is lower edge). | Norsk or Dansk (Scandinavian) measurement. |
| Consecutive inches to 16ths (up to 360 inches). | Vershok and Sagene (Russian) measurements. (Pocket Tapes). |

THREE-EIGHTHS INCH STEEL TAPES

- | | |
|---|---|
| Feet and inches only, inches not subdivided. | Yards, 10ths and 100ths of yards (up to 22 yards). |
| Feet, inches and halves. | Links and poles or rods. (Also links to 100ths throughout). |
| Feet, inches and quarters. | Metric, to $\frac{1}{2}$ centimeters throughout. |
| Feet, inches and 10ths of inches. | ★Metric, to millimeters throughout. |
| Feet, inches and 16ths (see footnotes). | Metric and English on same side of tape line. |
| Feet, inches and 32nds. | Automobile rim and rim tolerance measurements. |
| Feet, inches and 8ths, left hand (numbered right to left). | Burgos (Spanish Vara) measurement. |
| Feet, inches and 16ths, left hand (numbered right to left). | Other Vara measurements. |
| Feet, 10ths and 100ths of feet, left hand (numbered right to left). | Nya and Gamla (Swedish) measurements. |
| Consecutive inches to 16ths (up to 600 inches, i.e., 50 feet). | Norsk or Dansk (Scandinavian) measurement. |
| Yards and quarter-yards only (up to 20 yards). | Zar (Persian) measurement. |
| Yards to $\frac{1}{2}$ yard (up to 20 yards). | Vershok and Sagene (Russian) measurements. |

ONE-HALF INCH STEEL TAPES

- | | |
|---|---|
| Feet and inches only, inches not subdivided. | Links and poles or rods. |
| Feet and 10ths only, 10ths not subdivided. | ★Metric, to millimeters throughout. |
| Feet, inches and quarters. | Metric and English on same side of tape line. |
| Feet, inches and 10ths of inches. | Automobile rim tolerance measurement. |
| Feet, inches and 12ths of inches. | Vara measurement. |
| Feet, inches and 16ths (see footnotes). | Nya and Gamla (Swedish) measurements. |
| Feet, inches and 8ths, left hand (numbered right to left). | Norsk or Dansk (Scandinavian) measurement. |
| Feet, inches and 16ths, left hand (numbered right to left). | Vershok and Sagene (Russian) measurements. |
| Consecutive inches to 8ths (up to 600 inches, i.e., 50 feet). | |

★NOTE: Millimeters Throughout—For this special graduation on any $\frac{3}{4}$ or $\frac{1}{2}$ inch steel tape. 10c per meter added to price of regular marking.

Steel Tape Standards

Tension, Temperature, Standardization, etc.

LUFKIN Steel Tapes are made to bench standards certified accurate by the United States Department of Commerce, National Bureau of Standards, Washington, D.C.

The temperature standard for steel tapes is 68° Fahrenheit (equal to 20° centigrade). Official coefficient of expansion of steel tapes is 0.00000645 per degree Fahrenheit, 0.0000116 per degree centigrade. This amounts to 0.000645 foot or 0.00774 inch per degree Fahrenheit on a 100 foot tape; on a 50 foot to just one-half, and on a 200 foot to double that distance per degree. The same coefficient may safely be used for our stainless steel tapes also. For illustration of length variation with temperature, see page 53.

Standard tension for steel tapes supported horizontally throughout entire length, on flat surface is 10 pounds (4.5 kilograms) for tapes from 25 to 100 feet or from 10 to 30 meters long. For tapes longer than 100 feet or 30 meters it is 20 pounds (9 kilos.).

For tapes suspended, i.e., supported at ends only, no official tension has been set. This tension does not follow fixed rule; it varies not only with length and weight of tapes, but often differs on tapes which take one and the same tension of accuracy when supported throughout. Below we give averages of tests made by the U. S. Bureau of Standards of many of our steel tapes suspended. While this may serve as a practical guide for these lengths, being an exact average for large number of tapes tested, it is offered only as a working basis from experience, and not as fully taking the place of test of any individual tape.

Tapes Suspended Horizontally, Supported at Ends Only, Ends Level

Kind of Tape	Length	Tension of Accuracy Supported Throughout	Tension of Accuracy Supported Ends Only
3/4" Standard Weight Tapes.....	50-ft.	10 lbs.	13 lbs.
1/2" Standard Weight Tapes.....	50-ft.	10 lbs.	13 lbs.
3/4" Standard Weight Tapes.....	100-ft.	10 lbs.	16 lbs.
1/2" Standard Weight Tapes.....	100-ft.	10 lbs.	16 lbs.
3/4" Engineers (.012") Tapes.....	100-ft.	10 lbs.	18 lbs.
1/2" Engineers Heavy (XX) Tapes.....	100-ft.	10 lbs.	24 lbs.
3/4" Chain Tapes.....	100-ft.	10 lbs.	24 lbs.
1/2" Chain Tapes.....	100-ft.	10 lbs.	16 lbs.

The Bureau is not equipped to test tapes suspended throughout of lengths over 150 feet or 50 meters, but issues a circular giving the theory and a formula for calculating proper tension for longer steel tapes suspended.

Temperature and tension need be taken closely into account only on very precise work. We recommend Government test of tapes for such work or used as master standards. Such tests are made for a nominal fee by the Government Laboratories.

On customer's request we will, when a tape ordered is to be standardized, handle the details with the Laboratory, the extra charge being only Government test fee plus transportation. A common test is: Tape supported throughout, comparisons made at ends only, certificate to show tension of accuracy at standard temperature. For a small additional fee, the Laboratory will determine tension of accuracy of tapes (of lengths not exceeding 150 feet or 50 meters) suspended, i.e., supported at ends only. Such tests give the simplest working basis; a Tension Handle, shown on page 53, being used to apply proper pull. Temperature correction may be calculated or tape ordered bearing temperature scale (page 53).

The U. S. Bureau of Standards issues official certificate and places its seal on steel tapes coming within its standard specifications, and having, under standard conditions, a variation of not more than 0.1 inch per 100 feet. Among tapes that do not come within its standard specifications are those graduated on babbit metal or having end ring included in measurement (on such tapes the Government will issue test report). Therefore, whenever practical, when ordering standardized tapes of a type regularly measuring from end of ring, it is best to specify "blank space first end."

Data on Tapes in Use, Etc.

Section Two

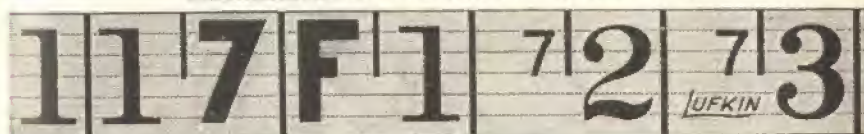
LUFKIN

WOVEN MEASURING TAPES

LUFKIN offers the world's best Woven Tapes, and the most complete and diversified assortment, ranging from the "Metallic" to the common Ass Skin Tape. All are made of selected yarns. In our own factories they are all so woven, finished and coated as to best protect against wear and moisture and to resist stretching and shrinking under actual conditions of use. We weave them all to width, with selvage, so edges will not fray out. All are clearly marked by the method long experience has proven most accurate. Figures are in two colors on all our long woven tapes, the foot or major division numbers in red, balance black. Cases are of good construction, those of leather are metal lined.

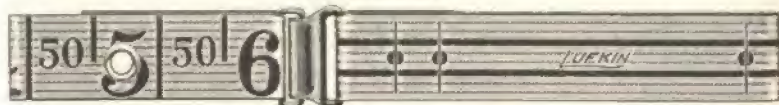
Because of the nature of the material, no fabric line can be guaranteed accurate under all conditions or should be depended upon for really close work. Ours are accurate within reasonable limits. Compared occasionally with a steel tape, good results may be obtained. For precise measuring a steel tape should be used, yet for some classes of work woven tapes are most practical and give satisfaction, particularly our better grades.

Instantaneous READINGS. (ACTUAL SIZE)



Our "Metallic," "Junior Metallic" and "Sterling" Tapes have *Instantaneous* Readings, i.e., last preceding foot number repeated throughout at each inch or 10th of foot, and appearing in red. This keeps total reading directly before the eye, eliminates the chance of error in running back to last foot, and saves time.

TAPE THREADER



Our "Metallic," "Junior Metallic" and "Sterling" Tapes have Patent Threader, making removal of old and attaching of a new line most simple. This is a 5-inch strip of the tape material, attached to winding drum and with hook at outer end. This hook fits flat ring on last end of tape line. It does so under tension so it will not unhook itself. Inserting new line in case simply means unhooking the old and hooking on the new; removal of drum or case screw being entirely unnecessary. Threader is handy also when wishing to use line without the case.

POINT OF BEGINNING OF MEASUREMENT ON WOVEN TAPES

All Long Woven Tapes Measure From Outer End of Ring.

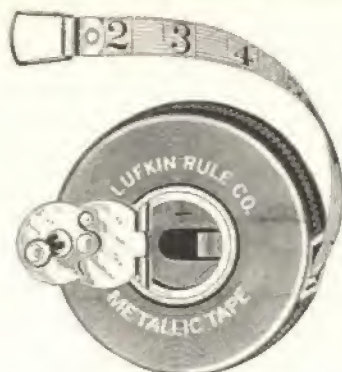
All Woven Pocket Tapes Have Blank Space First End.

(The above are our standard practices, but "Metallic" and "Sterling" Tapes will be supplied, without extra charge, with blank space first end, when so specified.)

SPECIAL GRADUATIONS

In addition to the extensively used measurements (listed in this Catalog) we are prepared to put on Woven Tapes certain special and foreign markings. Among the latter are Burgos and other Vara standards, Norsk or Danish, and Nya and Gamla. Prices quoted on request.

ROSE TOOLS, INC.



"Metallic" (Woven) Tapes

With Double-Folding Flush Handle

No. 600 Series. $\frac{5}{8}$ Inch Wide.

The Lufkin "Metallic" is the best of Woven Tapes. It is extensively used where it is impractical to employ a steel tape and where steel tape accuracy is not required. This tape we weave, coat and mark by the most approved methods known to insure satisfactory service.

Line is of linen with metallic warp. It has "Instantaneous" Readings (last preceding foot number repeated at each inch or each 10th of foot). Markings are clear and figures prominent. First end has leather reinforcement. The case is of brown, selected, genuine leather, closely hand-stitched, and has plated steel liner. The winding handle is of finest construction, double-folding flush pattern opened by pressing pin on opposite side. Mountings nickel plated. Patent threader makes removal of an old and attaching of a new line most simple.

Marked One Side Only

Feet, inches and half inches.....	No.	600	601	603	604	605	606
Feet, 10ths and half 10ths ft.....	No.	600D	601D	603D	604D	605D	606D
Length, feet.....		25	33	50	66	75	100
Weight each, ozs.....		10	11	15	18	21	25
Price, each.....		\$5.80	\$6.40	\$7.40	\$8.20	\$8.70	\$10.60

Marked Links on Back

Feet and inches one side, links on back.....	No.	600L	601L	603L	604L	605L	606L
Feet and 10ths ft. one side, links on back.....	No.	600DL	601DL	603DL	604DL	605DL	606DL
Length, feet.....		25	33	50	66	75	100
Price, each.....		\$6.00	\$6.60	\$7.60	\$8.60	\$9.20	\$11.30

Marked Metric and English

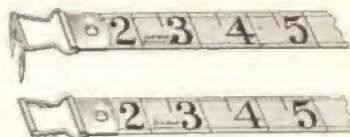
One Side Meters to Centimeters Throughout; Other Side Feet and Inches.

Number.....	600 $\frac{1}{2}$ ME	601ME	603ME	604ME	605 $\frac{1}{2}$ ME	606ME
Length, meters.....	5	10	15	20	25	30
Length, feet.....	15	33	50	66	82	100
Price, each.....	\$5.90	\$6.60	\$7.60	\$8.60	\$9.90	\$11.30

NOTES: Hook-Ring as Illustrated Page 67—Furnished on any above tapes at 20c extra each. Specify by prefix "H," as "H-603."

Metric Only—"Metallic" Tapes so marked, prices same as feet and inches.

Refills (Lines Only) for Above "Metallic" Tapes—See Page 68



Folding Hook-Ring

Enables one to measure unassisted. Optional on all tapes below at small extra charge.

See Footnote.

"Metallic" (Woven) Tapes

With Folding Handle

No. 500 Series. $\frac{5}{8}$ Inch Wide.

The Lufkin "Metallic" is the best of Woven Tapes. It is extensively used where it is impractical to employ a steel tape and where steel tape accuracy is not required. This tape we weave, coat and mark by the most approved methods known to insure satisfactory service.

The line is of linen with metallic warp. It has "Instantaneous" Readings (last preceding foot number repeated at each inch or each 10th of foot). Markings are clear and figures prominent. First end has leather reinforcement. The case is of brown, selected, genuine leather, closely hand-stitched, with plated steel liner and with substantial folding handle. Mountings nickel plated. Patent threader makes removal of an old and attaching of a new line most simple.

Marked One Side Only

	500	501	503	504	505	506	507
Feet, inches and half inches..No.	500D	501D	503D	504D	505D	506D	...
Feet, 10ths and half 10ths ft.No.	25	33	50	66	75	100	150
Length, feet.....	9	11	15	18	21	24	41
Weight each.....	\$3.90	\$4.60	\$5.50	\$6.40	\$7.00	\$8.70	\$15.20

Marked Links on Back

	No.	500L	501L	503L	504L	505L	506L
Feet and inches one side, links on back.....	No.	500DL	501DL	503DL	504DL	505DL	506DL
Feet and 10ths ft. one side, links on back.....	No.	25	33	50	66	75	100
Length, feet.....		\$4.10	\$4.80	\$5.90	\$6.80	\$7.40	\$9.40

Marked Metric and English

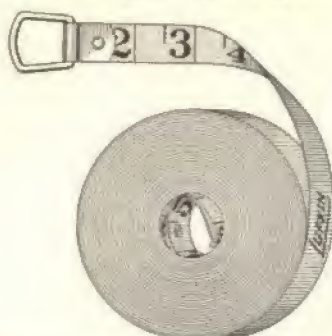
One Side Meters to Centimeters Throughout; Other Side Feet and Inches.

	500 $\frac{1}{2}$ ME	501ME	503ME	504ME	505 $\frac{1}{2}$ ME	506ME	507ME
Number.....	5	10	15	20	25	30	50
Length, meters.....	15	33	50	66	82	100	164
Length, feet....							
Price, each....	\$4.00	\$4.80	\$5.90	\$6.80	\$8.10	\$9.40	\$16.80

NOTES: Hook-Ring—If wanted, instead standard end ring, prefix "H" to stock number, as "H-503," and add to list price 20c per tape. Full description and uses, same as Steel Tape Hook-Ring, page 16.

Metric Only—"Metallic" Tapes so marked, prices same as feet and inches.

Refills (Lines Only) for Above "Metallic" Tapes—See Page 68
ROSE TOOLS, INC.



Refills for "Metallic" ($\frac{5}{8}$ Inch Wide) Tapes (Lines Only, without Cases)

These are Tape Lines without Cases, and equipped with regular ring at first end, threader loop at last end. Our "Metallic" Tape Cases have Patent Threader attached to drum. (Threader is illustrated on page 65.) Inserting new line in case is easy: Simply unhook the old and hook on the new, removal of drum or case screw being unnecessary.

These "Metallic" Tape Refills have "Instantaneous" readings (last preceding foot number repeated at each inch or 10th of foot).

Refills Listed Below Are for Nos. 600 and 500 "Metallic" Tapes, Pages 66 and 67

(Lines of Tapes of these two Series are identical)

Marked One Side Only

Feet, inches and half inches. No.	0500	0501	0503	0504	0505	0506	0507
Feet, 10ths and half 10ths ft. No.	0500D	0501D	0503D	0504D	0505D	0506D	.....
Length, feet.....	25	33	50	66	75	100	150
Weight each, ozs.....	4	5	7	8	9	12	18
Price, each.....	\$1.60	\$2.10	\$2.80	\$3.30	\$3.70	\$5.30	\$9.70

Marked Links on Back

Feet and inches one side, links on back.....	No.	0500L	0501L	0503L	0504L	0505L	0506L
Feet and 10ths ft. one side, links on back.....	No.	0500DL	0501DL	0503DL	0504DL	0505DL	0506DL
Length, feet.....		25	33	50	66	75	100
Price, each.....		\$1.80	\$2.40	\$3.10	\$3.80	\$4.10	\$5.90

Marked Metric and English

One Side Meters to Centimeters Throughout; Other Side Feet and Inches.

Number.....	0500 $\frac{1}{2}$ ME	0501ME	0503ME	0504ME	0505 $\frac{1}{2}$ ME	0506ME	0507ME
Length, meters....	5	10	15	20	25	30	50
Length, feet.....	15	33	50	66	82	100	164
Price, each.....	\$1.50	\$2.40	\$3.10	\$3.80	\$4.80	\$5.90	\$10.40

NOTES: Hook-Ring as Illustrated Page 67—Furnished on any above Tape Refills at 20c extra each. Specify by prefix "H," as "H-0503."
Metric Only—"Metallic" Tape Refills so marked, prices same as feet and inches.



"Junior Metallic" (Woven) Tapes

No. 660 Series. $\frac{7}{16}$ Inch Wide.

A Compact, Woven Tape of the Highest Grade
Most Convenient to Carry and Popular for Light Work

The "Junior" is a narrower, genuine "Metallic" line. Its weight with case is about half that of our $\frac{3}{8}$ inch wide tapes.

Line of linen with metallic warp, clearly marked and with leather reinforcement at first end. It has "*Instantaneous*" Readings (last preceding foot number repeated at each inch or each 10th of foot). Case of brown, selected, genuine leather, closely hand-stitched, and with plated steel liner. Folding flush handle is opened by pressing pin on opposite side. Mountings nickel plated. Patent threader makes removal of old and attaching of new line most simple.

This tape is not made over 50 feet long.
Marked One Side Only

Feet, inches and 8ths of inches.....	No.	660	663
Feet, 10ths and 100ths of feet.....	No.	660D	663D
Length, feet.....		25	50
Weight each, ozs.....		6	9
Price, each.....		\$4.10	\$5.10

Marked Metric and English

One Side Meters to Centimeters Throughout; Other Side Feet, Inches and 8ths.

Number.....	660 $\frac{1}{2}$ ME	661ME	663ME
Length, meters.....	5	10	15
Length, feet.....	15	33	50
Price, each.....	\$4.00	\$4.90	\$5.40

Refills for "Junior Metallic" ($\frac{7}{16}$ Inch Wide) Tapes (Lines Only, without Cases)

Feet, inches and 8ths, one side only	No.	0660	0663	
Feet, 10ths and 100ths ft., one side only	No.	0660D	0663D	
Length, feet		25	50	
Weight each, ozs.		2	4	
Price, each		\$1.60	\$2.60	
Metric and English	No.	0660½ME	0661ME	0663ME
Length, meters		5	10	15
Length, feet		15	33	50
Price, each		\$1.40	\$2.10	\$2.80

NOTE: Hook-Ring as Illustrated Page 67—Furnished on any above Tapes at 20¢ extra each.
Specify by prefix "H," as "H-663."

ROSE TOOLS, INC.



"Sterling" Linen Tapes

No. 400 Series. $\frac{5}{8}$ Inch Wide.

Popular with Telephone, Telegraph and Other Utility Companies,
for Ordinary Work

This line, in general appearance similar to the "Metallic," is without the metallic warp. While no woven tape should be depended upon for the closest degree of accuracy, the "Sterling" is strictly a quality article, well made from the best of materials, and is serviceable.

Linen line with leather reinforcement first end. Has clear markings and prominent figures, also "Instantaneous" Readings (last preceding foot number repeated at each inch or each 10th of foot). Case of brown, selected, genuine leather, closely hand-stitched, has plated steel liner and folding flush handle. Mountings nickel plated. Patent threader makes removal of old and attaching of new line most simple.

Marked One Side Only

	400	403	405	406	407
Feet, inches & half inches. No.	400	403	405	406	407
Feet, 10ths & half 10ths ft. No.	.....	403D	.....	406D	.....
Length, feet.....	25	50	75	100	150
Weight each, ozs.....	8	12	19	24	40
Price, each.....	\$3.80	\$5.00	\$5.40	\$7.50	\$13.60

Marked Metric and English

One Side Meters to Centimeters Throughout; Other Side Feet and Inches.

	400 $\frac{1}{2}$ ME	403ME	405 $\frac{1}{2}$ ME	406ME	407ME
Number.....	400 $\frac{1}{2}$ ME	403ME	405 $\frac{1}{2}$ ME	406ME	407ME
Length, meters.....	5	15	25	30	50
Length, feet.....	15	50	82	100	164
Price, each.....	\$3.90	\$5.20	\$7.40	\$8.30	\$15.10

Refills for "Sterling" Tapes. (Lines Only, without Cases)

	0400	0403	0405	0406	0407
Marked ft. & ins., one side No.	0400	0403	0405	0406	0407
Marked ft. & 10ths, one side No.	.....	0403D	.....	0406D	.....
Length, feet.....	25	50	75	100	150
Weight each, ozs.....	3	6	8	11	17
Price, each.....	\$1.50	\$2.60	\$3.30	\$4.80	\$9.10
Marked Metric & English No.	0400 $\frac{1}{2}$ ME	0403ME	0405 $\frac{1}{2}$ ME	0406ME	0407ME
Length, meters.....	5	15	25	30	50
Length, feet.....	15	50	82	100	164
Price, each.....	\$1.40	\$3.00	\$4.40	\$5.40	\$9.80

NOTES: Hook-Ring as Illustrated Page 67—Furnished on any above Tapes at 20c extra each. Specify by prefix "H," as "H-403."
Metric Only—"Sterling" Tapes so marked, prices same as feet and inches.



Linen Tapes on Metal Reels

Used by Pole Line and Construction Crews of Utility Companies, etc.

High grade linen line, non-metallic, $\frac{5}{8}$ inch wide, same as our popular "Sterling." Clear markings, prominent figures. Leather reinforcement first end.

Substantial, perforated disk reel of metal, heavily nickel plated. Reel being perforated is an aid in clearing tape of dirt accumulation and in drying it out. Sturdy folding winding handle gives good leverage and adjustable strap handle affords firm hold. Patent threader makes removal of old and attaching of a new line most simple.

With Five-Eighths Inch Linen Tape Line

Marked Feet, Inches and Half Inches, One Side Only

Number	Length		Weight, Each	Price, Each
1406	100 foot	Tape Complete with Reel	2 $\frac{1}{4}$ lbs.	\$14.20
1407	150 foot	Tape Complete with Reel	3 $\frac{1}{2}$ lbs.	18.50
01406	100 foot	Tape Line Only, without Reel	$\frac{3}{4}$ lb.	4.80
01407	150 foot	Tape Line Only, without Reel	1 $\frac{1}{8}$ lbs.	9.10

Marked Metric and English

1407ME	50 meter (164 ft.)	Tape Complete with Reel	4 lbs.	\$20.10
01407ME	50 meter (164 ft.)	Tape Line Only, without Reel	1 $\frac{1}{4}$ lbs.	9.80

"Metallic" (Woven) Tapes on Metal Reels

This is our standard "Metallic" Tape Line on open metal reel (illustrated above), which assembly is best for some classes of work.

Line is $\frac{5}{8}$ inch wide, of linen, with metallic warp. It has clear markings and prominent figures. First end has leather reinforcement.

Substantial, perforated disk reel of metal, nickel plated. Reel being perforated is an aid in clearing tape of dirt accumulation and in drying it out. Sturdy folding winding handle gives good leverage and adjustable strap handle affords firm hold. Patent threader makes removal of old and attaching of a new line most simple.

With Five-Eighths Inch "Metallic" Tape Line

Marked Feet, Inches and Half Inches, One Side Only

Number	Length		Weight, Each	Price, Each
1506	100 foot	Tape Complete with Reel	2 $\frac{1}{4}$ lbs.	\$14.80
1507	150 foot	Tape Complete with Reel	3 $\frac{1}{2}$ lbs.	19.30
01506	100 foot	Tape Line Only, without Reel	$\frac{3}{4}$ lb.	5.30
01507	150 foot	Tape Line Only, without Reel	1 $\frac{1}{8}$ lbs.	9.70

NOTE: Hook-Ring as Illustrated Page 67—Furnished on any above Tapes at 20c extra each. Specify by prefix "H," as "H-1406, H-1506," etc.

ROSE TOOLS, INC.



"Universal" (Linen Corded) Tapes

With Genuine Leather Cases

No. 940 Series. $\frac{5}{8}$ Inch Wide

For those who wish a medium priced yet good woven line in leather case.

Line is extra durable because it is corded with pure, unbleached linen and is $\frac{5}{8}$ inch wide. This width also permits of large and prominent figures. This tape is well coated in yellow and clearly marked. Case is of brown, genuine leather, hand-stitched, and has metal liner. Brass folding handle and mountings.

Marked Feet, Inches and Half Inches, One Side Only

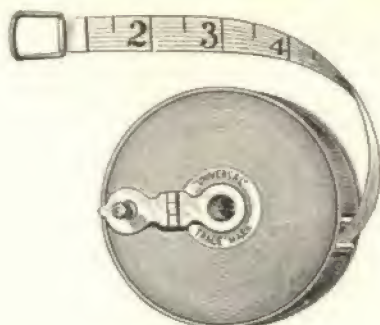
Number.....	940	943	945	946
Length, feet.....	25	50	75	100
Weight per doz., lbs.....	5 $\frac{1}{4}$	6 $\frac{3}{4}$	9 $\frac{1}{4}$	11
Price, per doz.....	\$24.60	\$32.70	\$37.10	\$40.90

Marked Metric and English

One Side Meters to Centimeters Throughout; Other Side Feet and Inches.

Number.....	941ME	943ME	945 $\frac{1}{2}$ ME	946ME
Length, meters.....	10	15	25	30
Length, feet.....	33	50	82	100
Price, per doz.....	\$29.00	\$36.00	\$43.00	\$46.90

Packing: One in a box, $\frac{1}{2}$ dozen in a carton



"Universal" (Linen Corded) Tapes

With Enameled Metal Cases

No. 730 Series. $\frac{1}{2}$ Inch Wide

Widely Known as the "Railroad Tape," Particularly No. 733R
An Inexpensive Yet Strong Tape, Affording a Very
Fair Degree of Accuracy for a Woven Line

Recommended for any rough measuring and is rapidly displacing the ordinary cotton tape.

The line is extra durable, being corded with pure unbleached linen, and well coated in yellow. It is clearly marked. Sheet steel case with sides maroon enameled, and with brass edge band. Brass folding handle and mountings.

These tapes are packed in individual boxes, half dozen in a carton, protecting and keeping them in best condition and most salable.

Railroad Tape. (Reinforced)

This tape is an extra value and is standard equipment of many railroads for common maintenance work. It is same as No. 733 but with first three feet of the line doubled and stitched. This prolongs its life, the first end of tape receiving by far the most wear.

No. 733R 50 ft. Railroad Tape (Reinforced)

Feet, Inches and Quarter Inches, One Side Only

Weight per doz. $4\frac{1}{2}$ lbs.

Price, per doz. \$15.30

Marked Feet, Inches and Quarter Inches, One Side Only

Number	730	731	733	734	735	736
Length, feet	25	33	50	66	75	100
Weight per doz., lbs.	$2\frac{3}{4}$	$3\frac{1}{2}$	$4\frac{1}{4}$	$5\frac{1}{2}$	6	7
Price, per doz.	\$8.30	\$9.30	\$13.10	\$14.80	\$16.40	\$20.30

Packing: All tapes on this page, one in a box, $\frac{1}{2}$ doz. in a carton

NOTE: Linen Corded Tapes, $\frac{5}{8}$ Inch Wide, in Leather Cases. See page 72.

ROSE TOOLS, INC.



Ass Skin Tapes

No. 710 Series. $\frac{1}{2}$ Inch Wide

A Long Woven Tape, Low in Price
Used by Laborers on Common Maintenance Work

The Lufkin Ass Skin Tape is extensively used because it is low in price yet a good tape of its kind. It is built only for such ordinary work as requires but a fair degree of accuracy. It would be found convenient in every home, and especially handy about the farm where measurements longer than practical to take with a rule are often to be determined.

Cotton line, coated yellow, clearly marked. Sheet steel case with sides cream enameled, and with brass edge band. Brass folding handle and mountings.

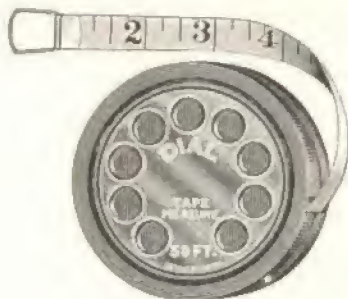
We emphasize that these tapes are packed in individual boxes, $\frac{1}{2}$ dozen in a carton, protecting and keeping them in best condition and most salable.

Marked Feet, Inches and Quarter Inches, One Side Only

Number.....	710	711	713	714	715	716
Length, feet.....	25	33	50	66	75	100
Weight per doz., lbs.....	2 $\frac{3}{4}$	3 $\frac{1}{4}$	4	5 $\frac{1}{4}$	5 $\frac{3}{4}$	7
Price, per doz.....	\$6.00	\$6.50	\$7.90	\$9.80	\$11.80	\$15.70

Packing: One in a box, $\frac{1}{2}$ doz. in a carton

NOTE: Linen Corded Tape in Metal Case—See page 73.



"Dial" Cotton Tape

(PATENTED)

This is our lowest priced 50-foot tape, yet is suitable for many kinds of common work and will give a fair amount of service. Being popular priced and 50 feet long it would prove handy on any farm and in many homes and appeals to many who have but occasional measuring to do.

Its novel feature is the winding mechanism in the form of a telephone dial. This dial revolves, and with finger tip inserted in any one of the nine holes, the line is quickly and easily wound into the case.

Metal case fully encloses the line. It is green enameled and has nickel plated mountings. The $\frac{1}{2}$ inch wide cotton line, woven to width, is coated light green and clearly marked in black and red.

Marked Feet, Inches and Quarter Inches, One Side Only

No. D-03 "Dial" Cotton Tape. Length: 50 ft. Price, per doz. \$6.00
Wt. per doz., $3\frac{1}{4}$ lbs. Packing: One doz. in display box

"Dial" Linen Corded Tape

(PATENTED)

This popular priced linen corded tape is suitable for measuring requiring but a fair degree of accuracy and will give a reasonable amount of service. Being 50 feet long it will fill a real want on many farms and in many homes.

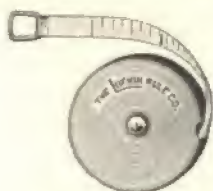
Winding mechanism in the design of a telephone dial is the novel feature. This dial revolves, and with finger tip inserted in any one of the holes, the line is quickly and easily wound into the case. The metal case is maroon enameled and the dial and other mountings are solid brass, making a most attractive combination. Case fully encloses the line.

Line of this 50 foot tape is very serviceable, being linen corded. It is $\frac{1}{2}$ inch wide, well coated in yellow and clearly marked in black and red.

Marked Feet, Inches and Quarter Inches, One Side Only

No. D-53 "Dial" Linen Corded Tape. Length: 50 feet. Price, per doz. \$7.40
Wt. per doz., $3\frac{1}{4}$ lbs. Packing: One in a box, $\frac{1}{4}$ doz. in a carton

ROSE TOOLS, INC.



Pocket Linen Tapes

The Pocket Linen Tapes listed below are our best grade, corresponding in construction with our No. 143 series steel tapes. These are a pocket tape for work on which it is impractical to use a steel tape. Their sale is not limited to hardware stores. They appeal also to the ladies, being much neater than common dressmakers tapes for sewing basket or cabinet. Therefore they are handled also by department stores and novelty shops. They are tissue wrapped and packed in individual boxes.

These lines are of enameled linen, clearly marked. In our own factories they are woven to width, with selvage, hence will not fray at edges. Cases are compact, well built and heavily nickel plated. They have rounded corners and fine appearance. Spring-wind with center push button and ratchet stop.

With One-Quarter Inch Linen Tape Line

Marked Inches to 8ths, One Side Only

Number.....	173	175	176
Length, inches.....	36	60	72
Weight per doz., lbs....	1 $\frac{1}{8}$	1 $\frac{3}{8}$	1 $\frac{1}{2}$
Price, per doz.....	\$8.40	\$10.20	\$11.40

Marked Inches to 8ths One Side; Millimeters Other Side

Number.....	173EM	175EM	176EM
Length.....	36 inch (1 meter)	60 inch (1 $\frac{1}{2}$ meter)	72 inch (2 meter)
Price, per doz.....	\$8.80	\$10.40	\$11.80

With Five-Sixteenths Inch Linen Tape Line

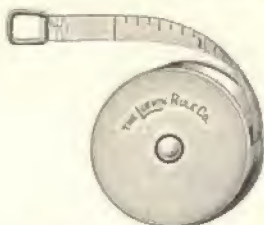
Marked One Side Only

Inches to 8ths	No. 188	96 inch	Wt., doz. 2 $\frac{3}{8}$ lbs.	Per doz. \$19.80
Feet, inches and 8ths	No. 188F	8 feet	Wt., doz. 2 $\frac{3}{8}$ lbs.	Per doz. 19.80

Packing: All packed one in a box. $\frac{1}{2}$ doz. in a carton

NOTES: Corresponding Pocket Steel Tapes—See page 58.
Tailors and Dressmakers Tapes—See page 126.

"Marvel" Pocket Linen Tapes



Popular priced Linen Pocket Tapes, a good medium grade article. This is a companion line to "Marvel" Pocket Steel Tapes shown page 59. These tapes also sell in quantities through department stores, novelty shops and bazaars, as well as hardware stores.

One-quarter inch wide, enameled linen tapes, woven to width, with selvage, so they will not fray out. Square-edge, nickel plated cases, spring-wind with center push button and ratchet stop.

With One-Quarter Inch Linen Tape Line

Marked Inches to 8ths, One Side Only

	3173	3175	3176
Number.....	36	60	72
Length, inches.....	$\frac{3}{4}$	1	1
Weight per doz., lbs....	\$5.10	\$6.20	\$7.30
Price, per doz.....			

Marked Inches to 8ths One Side; Millimeters Other Side

	3173EM	3175EM	3176EM
Number.....	36 inch (1 meter)	60 inch (1½ meter)	72 inch (2 meter)
Length.....	\$5.90	\$7.30	\$8.10
Price, per doz.....			

Packing: $\frac{1}{2}$ dozen in a box

NOTE: "Marvel" Pocket Steel Tapes—See page 59.



"Universal"

Pocket Tape

Our lowest priced tape in case. Sold by dry goods, department and general stores, novelty shops and bazaars, as well as hardware stores. Sixty inch cotton line, yellow coated, $\frac{1}{4}$ inch wide. Woven to width, with selvage, so will not fray out. Square-edge, nickel plated case, spring-wind with center push button and ratchet stop.

Packed in very attractive colored display boxes of one dozen. This box sits inclined, showing the goods to best advantage on counter, in show case or window.

One gross tapes (12 display boxes) per carton.

Marked Inches to 8ths, One Side Only

No. 165	Length, 60 inch.	Weight per gross, 9 lbs.	Price, per gross \$27.00
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NOTE: Can be supplied marked metric and English, at small additional cost. Specify as "No. 165EM."

ROSE TOOLS, INC.

Section Three

LUFKIN TAPE-RULES

LUFKIN has given to its line of Flexible-Rigid Measures the appropriate name "Tape-Rules." This type of measure has, in the last few years, become universally popular and is now in widespread use on all short measuring work. This is because Tape-Rules are the first practical combination of tape and rule. They can be projected unsupported to walls, ceilings, across and into openings, etc., yet will also flex to measure circles, odd shapes, around angles, etc. In all this they afford the accuracy of a steel tape. They are convenient to carry, like a pocket tape.

The graduated blades of our Tape-Rules are of superior quality steel. All lines and figures are dark and clear, in good contrast, easy to read. The action is always safe, for the blades do not eject themselves from case and are at all times under instant and full control.

Cases of all our Tape-Rules fully enclose the blade. This is important, for it excludes grit and lint both when in pocket and in use, so the measure will continue to operate smoothly. Through superior case construction our blades have perfect balance, therefore they remain set at any distance withdrawn, do not spring back into case.

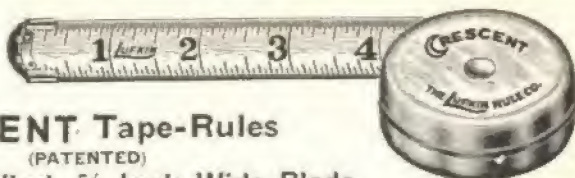
Also for advertising uses Tape-Rules are ideal, because they are novel, universally useful, convenient to carry and not expensive. In quantities from fifty upward, we can furnish various of our Tape-Rules bearing customers advertisement on case in an attractive and permanent manner. Illustration page 249. Prices quoted on request.

The sales possibilities of Tape-Rules become apparent on considering how many people do measuring that has called for either a folding rule or a pocket tape. This means every mechanic and many thousands of others in all walks of life. Also there are those who have not carried a rule but will a Tape-Rule, as it is vest pocket size.

All of our brands, "Crescent," "Crescent Junior," "Aristocrat," "Mezurall," "Wizard," "Wizard Junior," etc. are registered in U. S. and other patent offices. Each type is recognized as the most practical in its class.



Measuring straight and around bend for electrical conduit



CRESCENT Tape-Rules

(PATENTED)

Automatic Wind. $\frac{5}{8}$ Inch Wide Blade

A sturdy, 6-foot, spring-wind Tape-Rule that maintains its popularity.

Steel blade is stiffened by concave forming, so will project unsupported, like a rule, to walls, ceilings and into openings, yet also flexes to measure circles, etc. Blade nickel plated, markings dark and prominent, easy to read. End hook slides, automatically adjusting itself, so measurements, either butt end or hook, are accurate; serves also as a gage, holding any measurement and, pushed back, allows blade to enter very narrow channels.

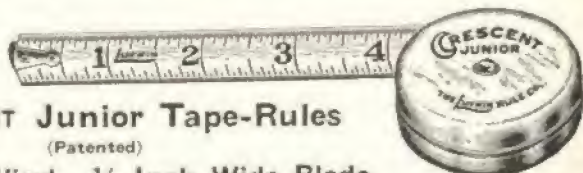
Nickel plated case is substantial, well finished, 2 inches in diameter and fully encloses blade. It is ribbed on edge at bottom, to stand on edge. Blade is manually withdrawn, ratchet stop holds it at any length, pressing center push button automatically returns it to case. Blade is always under complete control; spring-winding action is positive and smooth.

Markings, One Side Only

No.	Length		Price, Each
696	72 inch	Inches to 16ths, both edges. (First 6 inches upper edge to 32nds).....	\$2.50
696D	6 foot	Feet, 10ths and 100ths of feet upper edge. Feet, inches and 16ths lower edge.....	2.75
696EM	78 $\frac{3}{4}$ inch (2 meters)	Millimeters on upper edge. Inches to 16ths lower edge.....	2.75

Weight per doz., 4 $\frac{1}{2}$ lbs. Packing: One in a box, six in a carton

NOTE: "All Stainless Crescent"—See page 80.



CRESCENT Junior Tape-Rules

(Patented)

Automatic Wind. $\frac{1}{2}$ Inch Wide Blade

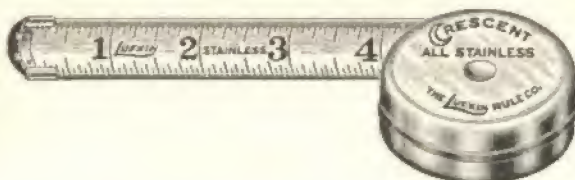
Made for those wishing a smaller Tape-Rule, yet spring-wind. Serves practically the same purposes and has the same improved features as the "Crescent," described above, except solid instead of sliding hook. Case diameter approximately 2 inches but narrower than "Crescent," the blade being but one-half inch wide.

Markings, One Side Only

Number	Length		Price, Each
1696	72 inch	Inches to 16ths, both edges. (First 6 inches upper edge to 32nds).....	\$1.50
1696D	6 foot	Feet, 10ths and 100ths of feet upper edge. Feet, inches and 16ths on lower edge.....	1.75
1696EM	78 $\frac{3}{4}$ inch (2 meters)	Millimeters on upper edge. Inches to 16ths lower edge.....	1.75

Weight per doz.: 3 lbs. Packing: One in a box, six in a carton

ROSE TOOLS, INC.



"All Stainless" CRESCENT Tape-Rules

(PATENTED)

Automatic Wind. $\frac{5}{8}$ Inch Wide Blade

Rust-Proof Blade and Case

The Accuracy and Convenience of a Pocket Steel Tape

The Utility of Both a Rule and a Tape

A 6-foot Tape-Rule exactly same as the "Crescent" except having both blade and case made of genuine Stainless Steel, rust-proof and non-corrosive. Suitable for general use, most valuable where rust and corrosion cause much trouble.

Stainless Steel blade is stiffened by concave forming, so it can be projected unsupported, like a rule. It will also flex to accurately measure circles and odd shapes. Markings are prominent and dark in sharp contrast to the metal background, easy to read.

Stainless Steel case is of good weight, well built and nicely finished. It fully encloses the blade, has rounded edges, and is but two inches in diameter. Spring-winding action is positive and smooth. Blade is manually withdrawn; ratchet stop holds it at any length withdrawn; and it is automatically returned by pressing center push button. Thus it is always under full control. Case is ribbed on edge at bottom so it will stand on edge, enabling blade to lie flat on the work.

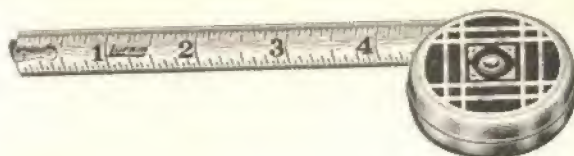
Sliding end hook (patented) is one of the distinctive features of this tape-rule. Hook automatically adjusts itself, so either butt end or hook measurements are accurately taken. Hook pushed back serves as a gage, indicating and holding the measurement. With hook pushed back, blade may be inserted in a narrower channel than hook would enter.

Markings, One Side Only

No.	Length		Price, Each
S-696	72 inch	Inches to 16ths, both edges. (First 6 inches upper edge to 32nds).....	\$3.00
S-696D	6 foot	Feet, 10ths and 100ths of feet upper edge. Feet, inches and 16ths on lower edge.....	3.25
S-696EM	78 $\frac{3}{4}$ inch (2 meters)	Millimeters on upper edge. Inches to 16ths lower edge.....	3.25

Weight per doz., 4 $\frac{1}{2}$ lbs. Packing: One in a box, six in a carton.

NOTE: "Crescent" Tape-Rules (not stainless)—See page 79.



"Aristocrat" Tape-Rules

(PATENTED)

Manually Operated. $\frac{7}{16}$ Inch Wide Blade

A Combination of Unusual Beauty and Utility

Compact and most attractive, finest of vest pocket Tape-Rules, yet a very practical 6-foot measure. Has the flexible and rigid features, both so handy in measuring, yet weighs only two ounces and diameter of case is but $1\frac{1}{2}$ inches. The "Aristocrat" is suitable for general use, but also strongly appeals to executives, salesmen, engineers, architects and many others, and makes an ideal gift for any man.

Steel blade is stiffened by concave forming, so it can be projected unsupported, like a rule. Yet it will also flex, like a pocket steel tape, to accurately measure circles and odd shapes. Blade is nickel plated and markings are clear and dark, in sharp contrast, hence easy to read. Blade is manually withdrawn and returned to case. It operates smoothly and because of superior case construction is perfectly balanced so it remains set at any length withdrawn, will not spring back into case. Solid hook at first end is ideal for measuring either within or beyond arms reach. Accurate butt end measurement can be taken from shoulders of blade.

Compact and very neat case is of genuine Stainless Steel. It has, on both sides, embossed design with background in black enamel, giving the "Aristocrat" the appearance its name implies.

Markings, One Side Only

No.	Length		Price, Each
186	72 inch	Inches to 16ths, both edges. (First 6 inches upper edge to 32nds).....	\$1.50
186D	6 foot	Feet, 10ths and 100ths of feet upper edge. Feet, inches and 16ths on lower edge.....	1.75
186EM	78 $\frac{3}{4}$ inch (2 meters)	Millimeters on upper edge. Inches to 16ths lower edge.....	1.75

Weight per doz., 2 lbs.

Packing: One in a box. **ROSE TOOLS, INC.**



WIZARD Tape-Rules

(PATENTED)

Manually Operated. $\frac{5}{8}$ Inch Wide Blade

A medium priced Tape-Rule that will give satisfactory service in steady use and has appeal to mechanics and many others.

Standard thickness steel blade stiffened by concave forming can be projected unsupported, like a rule, to walls, ceilings, or into openings. It will also flex to closely measure circles, around corners, etc. Blade is nickel plated and the prominent dark lines and figures are in sharp contrast, easy to read. Blade is manually withdrawn and returned to case. It operates smoothly, and because of superior case construction is perfectly balanced so it remains set at any length withdrawn, will not spring back into case. Solid hook at first end is very handy for measuring within or beyond arms reach. Accurate butt end measurement can be taken from the shoulders of the blade.

Sturdy metal case is nickel plated. It fully encloses the blade, thus excludes dirt. It will stand on edge so blade lies flat on work. Diameter of 6-foot case is two inches.

Markings, One Side Only

No.	Length		Price, Each
686	72 inch	Inches to 16ths, both edges. (First 6 inches upper edge to 32nds)	\$1.00
688	96 inch	Inches to 16ths, both edges. (First 6 inches upper edge to 32nds)	1.50
6810	120 inch	Inches to 16ths, both edges. (First 6 inches upper edge to 32nds)	2.50
686D	6 foot	Feet, 10ths and 100ths of feet upper edge. Feet, inches and 16ths on lower edge	1.25
686EM	78 $\frac{3}{4}$ inch (2 meters)	Millimeters on upper edge. Inches to 16ths lower edge	1.25

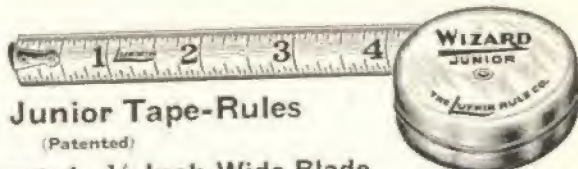
Weight per doz.: 6 ft., 3 lbs.

8 ft., 3 $\frac{1}{2}$ lbs.

10 ft., 4 $\frac{1}{2}$ lbs.

Packing: One in a box, six in a carton.

NOTE: "Wizard Junior" Tape-Rules—See page 83.



WIZARD Junior Tape-Rules

(Patented)

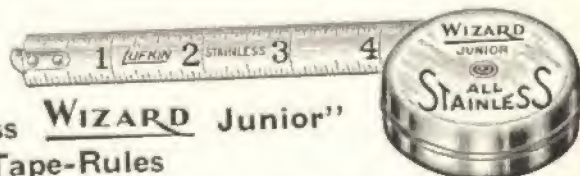
Manually Operated. $\frac{1}{2}$ Inch Wide Blade

A smaller, popular priced Tape-Rule of same pattern as the "Wizard." The 6-foot weighs but $2\frac{1}{2}$ ounces. Cases are convenient pocket size.

Blade has dark markings, in good contrast, easy to read. It is stiffened by concave forming, so will project unsupported, like a rule. It will also flex to closely measure around corners, etc. Blade is manually withdrawn and returned, runs smoothly, and is well balanced, so remains set at any point. Solid hook is handy for measuring within or beyond arms reach. Accurate butt end measurement is taken from shoulder of blade.

Substantial nickel plated case fully encloses the blade, excluding dirt. Cases are $1\frac{3}{8}$ inches in diameter, have rounded corners and are ribbed at bottom to stand on edge.

Number	Length	Markings, One Side Only	Price, Each
1686	72 inch	Inches to 16ths, both edges. (First 6 inches upper edge to 32nds).....	\$0.85
1688	96 inch	Inches to 16ths, both edges. (First 6 inches upper edge to 32nds).....	1.40
1686D	6 foot	Feet, 10ths and 100ths of feet upper edge. Feet, inches and 16ths on lower edge.....	1.10
1686EM	78 $\frac{3}{4}$ inch (2 meters)	Millimeters on upper edge. Inches to 16ths lower edge.....	1.10



"All Stainless WIZARD Junior"

Tape-Rules

(Patented)

Manually Operated. $\frac{1}{2}$ Inch Wide Blade
Rust-Proof Blade and Case

"All Stainless Wizard Jr." is a manually operated Tape-Rule that is rust-proof throughout. Both blade and case are of genuine stainless steel. In other respects this Tape-Rule is same as the popular "Wizard Junior" described above. It is suitable for general use and ideal for work in which rust and corrosion are common troubles.

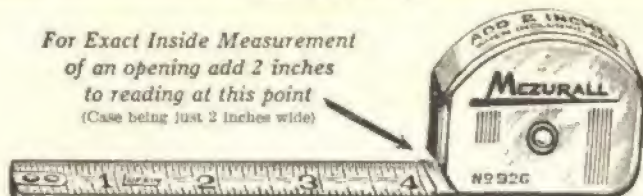
End hook has short sliding action, so automatically adjusts itself to give accurate result when hooked over any object (as in ordinary measuring), and also when blade is projected against any surface (as in taking a butt end measurement).

No.	Length	Markings, One Side Only	Price, Each
S-1686	72 inch	Inches to 16ths, both edges. (First 6 inches upper edge to 32nds).....	\$1.50
S-1686D	6 foot	Feet, 10ths and 100ths of feet upper edge. Feet, inches and 16ths on lower edge.....	1.75
S-1686EM	78 $\frac{3}{4}$ inch (2 meters)	Millimeters on upper edge. Inches to 16ths lower edge.....	2.00

Wt. per doz.: 72-inch, $2\frac{1}{4}$ lbs.; 96-inch, $2\frac{1}{4}$ lbs. Packing: One in a box, six in a carton.

ROSE TOOLS, INC.

For Exact Inside Measurement
of an opening add 2 inches
to reading at this point
(Case being just 2 inches wide)



MEZURALL Tape-Rules (PATENTED)

Manually Operated. 1/2 Inch Wide Blade
Most Practical and Compact All-Purpose Tape-Rule
For Inside and Outside, also Height and Depth Measuring

The "Mezurall" is a popular priced Tape-Rule, most simple and positive in operation, accurate and suitable alike for:

- Standard, i.e., common measuring.
- Inside measuring of door and window openings, etc.
- Gaging or measuring of height or depth.

End hook has short sliding action, so automatically adjusts itself to give accurate result when hooked over any object (as handy in common measuring), and when blade is projected against any surface (as in taking an inside or any other butt end measurement). The case has three flat edges, so will stand unsupported in three measuring positions, i.e., with blade projected horizontally, or upward or downward.

To take an inside measurement:

- Butt square back edge of case against one side of opening being measured.
- Extend the blade to the other limit.
- Add 2 inches to the reading clearly indicated at the square opening of the case, as illustrated (case being 2 inches wide).
- (This instruction is clearly stamped on the case itself.)

The "Mezurall" is very compact and light weight. It weighs but 3 ounces, and case is but 3/8 inch thick and its greatest width 2 inches. The case is nickel plated, has rounded corners and is well finished. It fully encloses the blade.

The blade is nickel plated and has dark and prominent markings, easy to read. It is stiffened by concave forming, so can be projected unsupported, like a rule, to walls, ceilings, across openings, etc., yet will also flex to properly measure circles and odd shapes. The blade is manually withdrawn and returned to case, runs smoothly and remains set at any length withdrawn, does not spring back into case.

No.	Length	Markings	Price, Each
926	72 inch	Blade Marked One Side, both edges, inches to 16ths. (First 6 inches upper edge to 32nds).....	\$1.25
928	96 inch	Marked same as above.....	1.65
926B	72 inch	Blade Marked Both Sides, both edges, inches to 16ths. (First 6 inches upper edges to 32nds).....	1.50
928B	96 inch	Marked Both Sides, same as No. 926B.....	1.90
926EM	78 3/4 inch (2 meters)	Millimeters upper, 16ths inches lower edge..... { When including case in measurement, add: For English. .2 inches For Metric. .5 Centimeters }	2.00

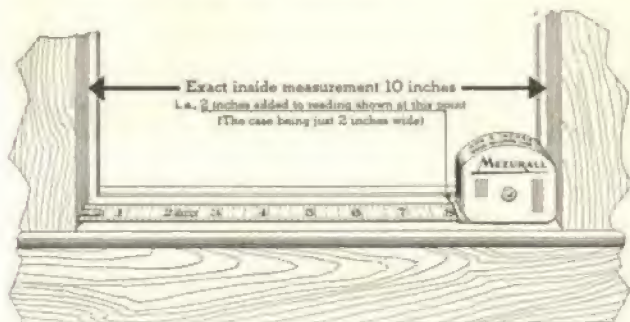
Weight per doz., 2 1/2 lbs. Packing: One in a box, six in a carton

Stainless Steel **MEZURALL** Tape-Rule

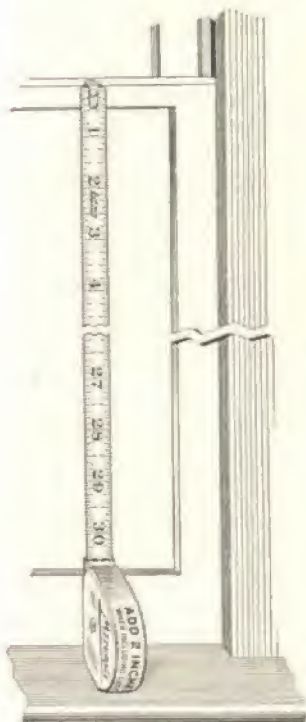
Same as No. 926, above, except having blade of Genuine Stainless Steel, Rust-Proof.
No. S-926 72 inch Stainless "Mezurall" Tape-Rule..... Price, each \$1.75

MEZURALL Tape-Rules in Use

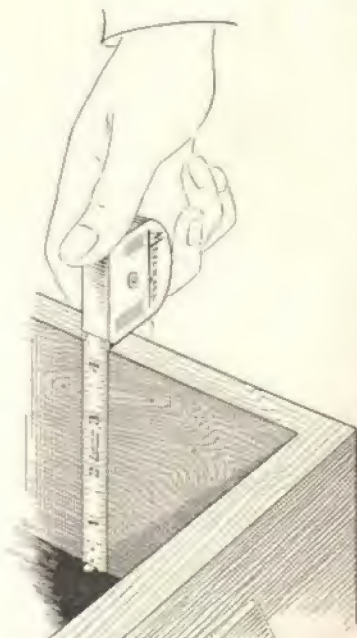
(DESCRIPTION AND LISTINGS PAGE 84)



Self-adjusting hook permits accurate, butt end, inside measurement of opening. Blade stands at any length withdrawn.



An accurate measurement using hook. Exact distance from top of window sash to top of sill, 32½ inches, i. e., 2 inches added to measurement shown at reading point.



Self-adjusting hook permits accurate measurement of drawer depth. Blade marked both sides (No. 926B) is very convenient in many kinds of measuring.

ROSE TOOLS, INC.



DōNUT Tape-Rule

(PATENTED)

**Manually Operated. $\frac{5}{8}$ Inch Wide Blade
Removable From Case**

Lowest in price of our Tape-Rules, yet will give good service.

*Case has open center, hence the name **DōNUT** :*

Finger or thumb can readily be inserted through this smooth, large center hole, affording the quickest and most secure hold. Yet this case fully encloses the blade, excluding dirt.

Open center also makes this Tape-Rule light weight and one that can be hung up on any nail or hook.

Blade is readily removed from case, not attached to it:

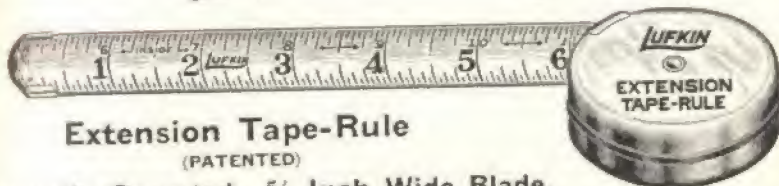
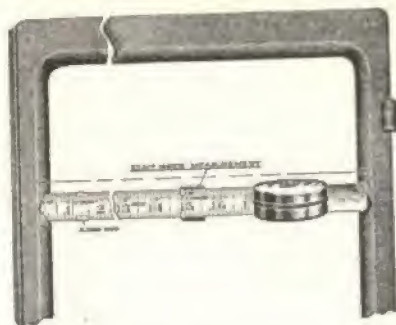
By simply withdrawing blade it is available for separate use, as some prefer. Therefore the blade is cut to six feet overall.

The substantial steel case has a black finish, of a penetrating nature, peel, chip and crack-proof and affording good protection.

Steel blade is of standard weight, stiffened by concave forming so will project unsupported, like a rule, to walls, ceilings, or into openings. It will also flex to closely measure circles, odd shapes, around corners, etc. Its lines and figures are prominent and black, hence in sharp contrast, easy to read. Blade is manually withdrawn and returned to case, operates smoothly and stands where withdrawn. First end has solid hook, very handy for measuring within or beyond arms reach.

Markings, One Side Only

No.	Length		Price, Each
986	72 inch	Inches to 16ths, both edges. (First 6 inches upper edge to 32nds).....	\$0.65
		Weight per doz.: 2 lbs.	
		Packing: One in a box, six in a carton.	



Extension Tape-Rule

(PATENTED)

Manually Operated. $\frac{5}{8}$ Inch Wide Blade.

FOR INSIDE MEASURING. FOR ALL OTHER COMMON MEASURING.

A 6-foot Tape-Rule suitable for standard measuring and also for taking exact inside measurements of door and window openings, etc. For inside measuring it has, in addition to graduated blade, an extension blade of same steel. Unlike any other Tape-Rule, this one accurately takes inside measure even when both limits of the space are at bottom of a groove or a channel. Example: Bottoms of the two channels which determine size of automobile glass. Both blades remain set at length withdrawn, will not fly back into case, do not require locking mechanism. Point of reading is always in a position easy to read.

Blade nickel plated, markings black and prominent, easy to read. Blade stiffened by concave forming, can be projected unsupported like a rule to ceilings, across openings, etc. It will also flex to properly measure circles, etc. Sturdy case, nickel plated, fully encloses blades, excludes dirt. Case has rounded edges and is two inches in diameter. It is ribbed on edge at bottom, so will stand on edge, enabling blade to lie flat on the work. No. X-686 has sliding hook, so blade can be inserted in a narrower slot than hook would enter. This hook automatically adjusts itself so that distance is accurately taken when hook is placed over the object being measured, yet when blade is butted against any object zero point falls at extreme outer end.

In Common Measuring Read the Large Figures Along Lower Edge of Blade

In Inside Measuring Read the Smaller Figures Along Upper Edge of Blade

To take an inside measurement:

- Grip edges of overlay buckle at outer edges of case and withdraw from case until automatic stop is reached (about 4 inches).
- Slide extension blade back to the right any convenient short distance and butt its right end squarely against side of opening being measured.
- Pull graduated blade to the left until it butts against other side of opening being measured.
- The overlay buckle or gage then indicates and holds the exact inside measurement, reading being taken at upper edge of blade.
- (This edge has the smaller inch figures and is clearly marked throughout the length of the blade "inside" measure.)

To recoil in case:

- Pull extension blade to left to automatic stop.
- Depress its last end and then push this blade back into case, manually operating graduated blade into case in usual manner.

Marked One Side, Inches to 16ths, Both Edges

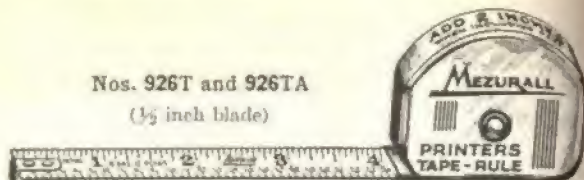
Numbered lower edge for ordinary measuring, upper edge for inside measuring.
 No. X-686 Extension Tape-Rule. Length, 72 inch. Price, each \$2.00

Wt., doz. 31½ lbs. Packing: One in a box, with directions for use

ROSE TOOLS, INC.

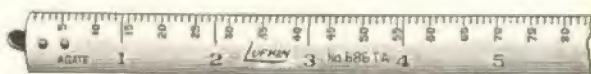
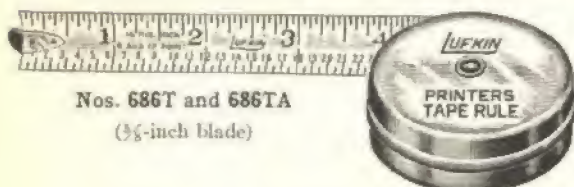
Nos. 926T and 926TA

(1½ inch blade)



Nos. 686T and 686TA

(3½-inch blade)



Reverse Side Blade of Nos. 926TA and 686TA

Printers Tape-Rules

(PATENTED)

Manually Operated

Carry Inches, Agate, Pica and Nonpareil

These Tape-Rules have 72-inch steel blade stiffened by concave forming, so it can be projected unsupported, like a rule, yet will flex to accurately measure cylinders, around corners, etc.

Graduated as detailed below, they are ideal for the many uses of printers, compositors, pressmen, bindery workers, printing trade salesmen, advertising and newspaper men. They are handy not only for measuring type and forms, books, borders and space, but, due to their length, are suitable also for squaring cylindrical forms, and all general purposes of Pocket Tapes.

The "Mezurall" will in addition take exact inside measurements, as of drawers, forms, door and other openings, for it has sliding hook so either butt end or hook measurements are accurate, and its case has three flat edges.

All have sturdy, nickel plated case, but two inches in diameter, so carry nicely in vest pocket. All blades are nickel plated, clearly marked, and with hook. Hook is handy when measuring type, etc.; almost indispensable when working beyond arm's reach. Blades of all are manually operated, work smoothly and remain set at any length withdrawn. The nonpareil and pica (6 and 12-point) are on the true basis, 72 points equal .906 inch.

Marked Concave Side: Upper Edge 72 Inches to 16ths;

Lower Edge 433½ Picas to 6 and 12-Point (Nonpareil and Pica)

No. 926T	"Mezurall" Printers Tape-Rule.....	Each \$1.70
No. 686T	Printers Tape-Rule (with round case).....	Each 1.50

Marked Concave Side, Same as above, 72 Inches to 16ths, 6 and 12-Point;

Marked Convex Side, 36 Inches to Inches and 504 Agate Lines

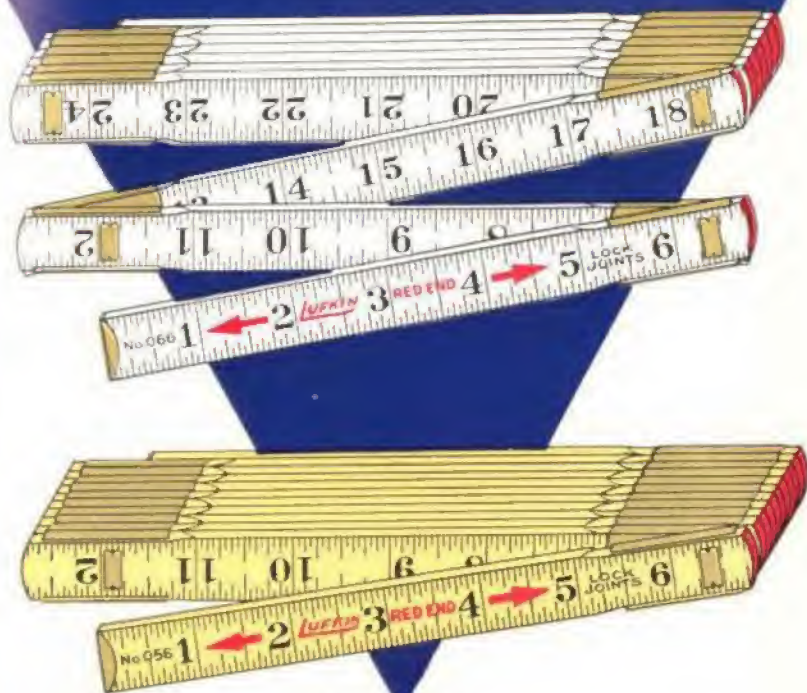
No. 926TA	"Mezurall" Printers Tape-Rule.....	Each \$2.00
No. 686TA	Printers Tape-Rule (with round case).....	Each 1.70

Packing: One in a box. Wt. per doz.: 926T, 2½ lbs.; 686T, 3 lbs.

NOTE: Printers Pocket Tapes and Type Rules—See pages 60 and 134-B.

LUFKIN "RED END"

**The Name And Mark Of The Worlds Best
SPRING JOINT RULES**



ASK FOR

"The Rule With the Bright Red Ends"

IT HAS THESE OUTSTANDING FEATURES

- (1) Solid brass joints, rust-proof, smoothest working.
- (2) Solid brass strike plates, preventing wear.
- (3) Lock joints (shown page 86) reduce end play, maintain accuracy.
- (4) Sections of finest hardwood, straight grain, tough, flexible.
- (5) Graduations both edges of both sides.
- (6) Most durable enamel finish, snow white and cream.
- (7) Folding hook of type far superior to any other.
- (8) Most striking and attractive appearance.
- (9) Wide range of graduations, indicated below.

GRADUATIONS OFFERED IN "RED END" RULES

Outside Page 88. "Two-Way" Page 89. Engineers Page 93.
Inside Page 93. Vertical Page 90. Metric-English. Page 97.

ROSE TOOLS, INC.

Section Four

LUFKIN

SPRING JOINT WOOD RULES.

BOXWOOD RULES.

ALUMINUM RULES.

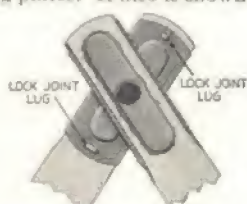
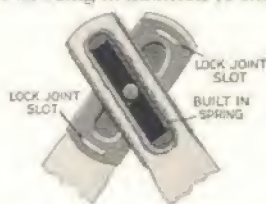
FOLDING EXTENSION RULES.

SPRING JOINT WOOD RULES (pages 85-C to 98) are, of all rules, most extensively used. Those with "Rivet Joint" have rivet passing through the wood and through both joint plates: "Concealed Joint" Rules have rivet but it is not visible. All have securely fastened metal cap at each end.

"Red End" Rules are outstanding, the very best. They have solid brass, rust-proof, smooth-working joints, also brass strike plates, and are superior as well in finish and appearance. The "Two Way—Red End" is, in numbering also, unlike any other rule.

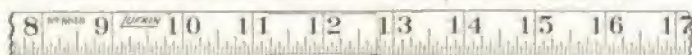
Folding End Hook is a patented feature of much value, supplied on our Spring Joint Rules, as listed. It is illustrated next page.

Lock Joints, illustrated below, are a patented feature on our Spring Joint Wood Rules, and a most valuable one. They are in addition to the regular large socket lengthwise of each spring plate. Lock Joint consists of each joint having in one spring plate two cut-out crosswise slots, one at each end, and the other plate fitting to it having projections or lugs which snap and closely fit into these slots. Lock Joints guard against end play. Together with the rule rivet they maintain accurate length, very important on these rules which have many joints. Another feature of our Rules is the Stiff Steel Spring assembled in each joint, this being in addition to the regular spring plates. It also is shown below.

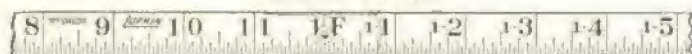


Rules in "Consecutive Inches" have inch numbers continuous throughout, as illustrated below. Example: 6-foot Rule numbered 1 to 72.

Rules in "Feet and Inches" have foot number at each foot, 1F, 2F, etc., and have inches in each foot numbered 1 to 11. Such Rules also have Instantaneous Readings, last preceding foot number repeated at each inch.



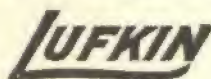
Consecutive Inches



Feet and Inches

ALUMINUM FOLDING RULES (pages 99 and 99-A) are widely used in the building trades and in mills and shops. They give excellent satisfaction because they hold a closer degree of accuracy and are more durable than Wood Rules, and are lighter weight and lower in price than corresponding Steel Rules. As they have solid brass joints they are rust-proof throughout. The large rivet heads and washers are flush embedded in the metal, holding the length very securely. We offer Aluminum Rules also with Folding End Hook, illustrated next page.

Section Four (Continued)



SPRING JOINT WOOD RULES.

BOXWOOD RULES.

ALUMINUM RULES.

FOLDING EXTENSION RULES.

BOXWOOD RULES (pages 100 to 106) are the oldest type of folding wood rule in common use today. Ours are of Genuine Boxwood, thoroughly seasoned well finished in the natural wood, and carefully inspected. All have ends capped and have closing pins. Joints, hinges, caps, etc., are of solid brass. Our Rules are graduated by improved methods and markings are clear, black and permanent. Widths specified are those of the Rules when closed.

In Boxwood Rules there are three types of main or center joint:

"Round Joint"—one flange embedded in each leg of Rule.

"Square Joint"—two square-end flanges, one set flush into each side of rule leg, a better rule.

"Arch Joint"—same as square joint but flanges longer and their ends arch-formed, making a good rule and one of finest appearance.

"Middle Plate" Rules have legs of hinge inserted in the wood.

"Edge Plate" Rules have legs of hinge flush with edges of wood.

"Unbound" Rules have plain edges.

"Full Bound" Rules have both edges brass covered.

"English Pattern" Boxwood Rules have figures reading from left to right, and are specified by adding "LR," as "No. 781LR." We stock and we supply them without extra charge. The demand for them is limited practically to the British Empire and we there automatically furnish them under regular catalogued stock numbers.

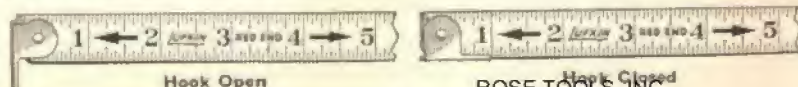
English and Metric Boxwood Rules, in English lengths, are regular stock with us in the following numbers only, and these take regular price:

651EM 781EM 372EM 386EM 781C-EM 863L-EM

We offer also a 1-meter, 4-fold in Metric and English, No. **3851ME**.

FOLDING EXTENSION RULES (page 95) are extra sturdy wood rules, ideal both for taking inside measurements (as of door, window and other openings), and for all other common measuring. They have heavier sections and joints than other similar folding rules, and are finished in the natural wood. They have Patent Lock Joints and Stiff Steel Spring in each joint, valuable features described on preceding page. They are offered also with Folding Hook, described below.

Folding End Hook, illustrated below, is another of our patented features. Ours is the most practical, sturdy, and handiest rule hook. While useful in practically all measuring, it is just the thing for work beyond arms reach. Opened, this metal hook extends $\frac{3}{8}$ inch from lower edge of rule and zero falls at inside of hook. Hook is also readily folded up and holds itself flush with edge of rule, and the rule is then, for carrying and for use, same as those without hook, zero falling at extreme end. This hook can be supplied on our Aluminum Rules, our Spring Joint Wood Rules, and Folding Extension Rules, as listed in this Catalog.



ROSE TOOLS, INC.



**if it has a
"RED END"**

"Red End" Spring Joint Rules

(Reg. U. S. Pat. Off.)

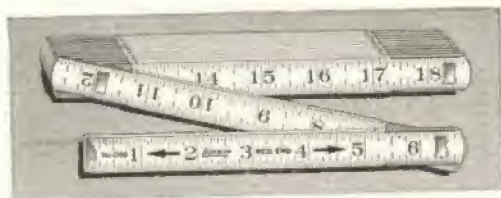
THE WORLD'S BEST SPRING JOINT WOOD RULES

Flexible Hardwood. $\frac{3}{8}$ Inch Wide. Six-inch Folds. Patented Lock Joints. Strike Plates. Solid Brass Mountings.

"Red End" Rules are the finest of folding wood rules; superior in quality of materials, in finish and appearance. Sections of selected hardwood. Concealed joints of solid brass, rust-proof and smooth-working. Brass strike plates on each section prevent wear on markings in opening and closing. Brass caps at ends.

Thoroughly well finished in most durable enamels, snow white and cream. Ends are gloss red, most attractive and setting off the "Red End" from all other rules.

Double graduation, 16ths on both upper and lower edge of each side. Patented lock joints reduce end play and thus greatly aid in maintaining accuracy.



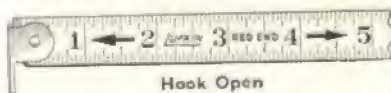
Marked Consecutive Inches to 16ths, Both Edges of Both Sides

No.	Length	Color	Wt., Doz.	Per Doz.	No.	Length	Color	Wt., Doz.	Per Doz.
054	4 ft.	Cream	2 $\frac{1}{4}$ lbs.	\$ 5.20	064	4 ft.	White	2 $\frac{1}{4}$ lbs.	\$ 5.60
055	5 ft.	Cream	2 $\frac{3}{4}$ lbs.	6.40	065	5 ft.	White	2 $\frac{3}{4}$ lbs.	6.90
056	6 ft.	Cream	3 $\frac{1}{2}$ lbs.	7.20	066	6 ft.	White	3 $\frac{1}{2}$ lbs.	7.80
058	8 ft.	Cream	4 $\frac{1}{2}$ lbs.	10.00	058	8 ft.	White	4 $\frac{1}{2}$ lbs.	10.80

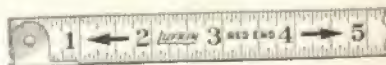
"Red End" Rules with Patented Folding Hook

These rules are of highest grade, superior in quality and finish. They are identical with those described above but equipped with patented hook.

This small and sturdy metal hook at one end is ideal on work beyond arms reach, and handy in other measuring. Hook is permanently attached yet in such manner that with a twist of the finger it folds up and remains flush with edge of rule, making the rule for use same as those without hook. Zero falls at inside of open hook; at extreme end of rule when hook is closed.



Hook Open



Hook Closed

Marked Consecutive Inches to 16ths, Both Edges of Both Sides

No. H-056	6 ft. Cream.	Per Doz.	\$7.80	No. H-066	6 ft. White.	Per Doz.	\$8.40
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(Hook can be supplied on rules of any other length. Specify as H-054, etc.)

Packing: $\frac{1}{2}$ doz. per box

NOTES: "Two Way—Red End" Rule—See page 89.

"Red End" Rules with Inside Markings; Also Marked 100ths Foot;
Also Marked Metric and English—See pages 93 and 97.

ROSE TOOLS, INC.

"Two Way—Red End" Rule

(Reg. U. S. Pat. Off.)

OF HIGHEST GRADE AND UNLIKE ANY OTHER RULE

Equally Handy for Measuring Left to Right and Right to Left

Flexible Hardwood. $\frac{5}{8}$ Inch Wide. Six-Inch Folds. Patented Lock Joints.
Strike Plates. Solid Brass Mountings



Reading from right to left.

Reading from left to right.

As pictured above, the "Two Way" Rule has figures one side reading left to right, other side reading right to left. Left to right is the natural measuring direction; right to left is most convenient when rule is in left hand, pencil or saw in the right. This rule is handy for measuring right and left out of a corner. Also, when measuring distances longer than the rule, the completing length is shown, with figures right side up, by simply turning over the rule. The sections that are open for use lie flat directly on the work, because the "Two Way" Rule has inside markings on both sides, i.e., numbering commences on inside face as illustrated.

The "Two Way" has the superior features of other "Red End" Rules. Materials throughout are of best quality. It has 16ths on both upper and lower edge of each side. The concealed joints are of solid brass, rust-proof and smooth-working. Brass strike plates on each section prevent wear on markings in opening and closing. Brass caps at ends. Patented lock joints reduce end play, thus greatly aiding in maintaining accuracy. Finest finish and appearance, rule in snow white enamel with ends in gloss red.

Marked Consecutive Inches to 16ths, Both Edges of Both Sides

No. 966 6 ft. "Two Way—Red End" Rule. White Enameled. Per Doz. \$7.80

Folding End Hook, shown page 87, supplied at small extra charge

This rule, fitted with hook at left end, is known as No. H-966

Packing: $\frac{1}{2}$ doz. per box. Wt. doz. $3\frac{1}{2}$ lbs.

NOTE: Other "Red End" Rules—See pages 88, 90, 93 and 97.

Vertical "Red End" Rules

(Reg. U. S. Pat. Off.)

Measuring Upward or Downward, Figures Face User Directly

Measuring Left to Right or Right to Left, Figures Never Upside Down

Strike Plates.

Solid Brass Mountings.

Patented Lock Joints.

Flexible Hardwood.

 $\frac{5}{8}$ Inch Wide.

Six-Inch Folds.

These Rules have figures on both sides placed vertically, i.e., running perpendicularly from top to bottom (instead of the common way, horizontal left to right). With Rule in either hand, vertical figures face the user directly when measuring upward or downward, yet are easy to read also when measuring right to left or left to right.

Numbers V-66 and V-66F have all these outstanding features that have made "Red End" the name and color recognized everywhere as the mark of the world's best Rules:

Solid brass strike plates, preventing wear.

Solid brass joints, rust-proof, smoothest working.

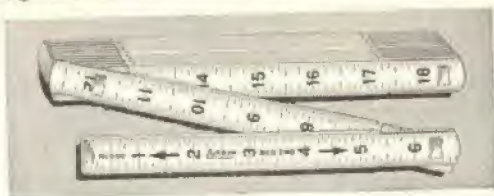
Lock joints (shown page 86), reduce end play, maintain accuracy.

Sections of finest hardwood, straight grain, tough, flexible.

Most durable, snow white enamel finish.

Graduations both edges of both sides.

Ends in bright, gloss red, most striking and attractive.



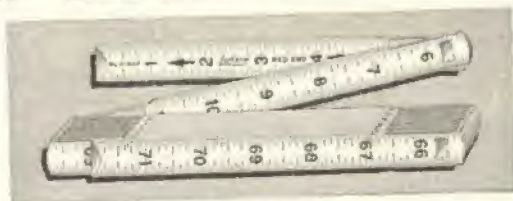
No. V-66

Rule with OUTSIDE Vertical Markings

(Zero of both ends falls outside when rule is closed)

Marked Consecutive Inches to 16ths, Both Edges of Both Sides
White Enameled

No. V-66 6-foot Vertical "Red End" Rule..... Per doz. \$7.80



No. V-66F

Rule with INSIDE Vertical Markings

(Flat markings, i.e., numbering commences on inside faces; hence measurement lies close to the work even with rule but partly open)

Marked Consecutive Inches to 16ths, Both Edges of Both Sides
White Enameled

No. V-66F 6-foot Vertical "Red End" Rule..... Per doz. \$7.80

Packing: $\frac{1}{4}$ doz. per box. Weight per doz.: $3\frac{1}{2}$ lbs.

NOTE: Folding End Hook—Illustrated page 87; supplied on either of above Rules at 60¢ extra per dozen. Specify by prefix "H," as "H-V66."

ROSE TOOLS, INC.

Spring Joint Rules

All rules shown on this page are of **LUFKIN** Standard Grade and Brand.
 These are the grade and the types that for years have been most extensively used.
Flexible Hardwood. $\frac{5}{8}$ Inch Wide. Six-Inch Folds.
Brass Plated Mountings. Patented Lock Joints.



Rivet Joints

Marked Consecutive Inches to 16ths, Both Sides.

No.	Length	Color	Wt., Doz.	Per Doz.	No.	Length	Color	Wt., Doz.	Per Doz.
8523	3 ft.	Cream	1½ lbs.	\$3.20	8623	3 ft.	White	1½ lbs.	\$3.60
8524	4 ft.	Cream	2 lbs.	4.20	8624	4 ft.	White	2 lbs.	4.60
8525	5 ft.	Cream	2½ lbs.	4.90	8625	5 ft.	White	2½ lbs.	5.40
8526	6 ft.	Cream	3 lbs.	5.40	8626	6 ft.	White	3 lbs.	6.00
8528	8 ft.	Cream	4 lbs.	7.80	8628	8 ft.	White	4 lbs.	8.60



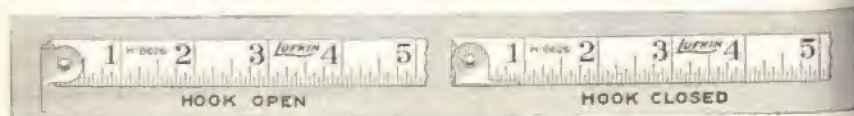
Concealed Joints

Marked Consecutive Inches to 16ths, Both Sides.

No.	Length	Color	Wt., Doz.	Per Doz.	No.	Length	Color	Wt., Doz.	Per Doz.
8514	4 ft.	Cream	2 lbs.	\$4.20	8614	4 ft.	White	2 lbs.	\$4.60
8515	5 ft.	Cream	2½ lbs.	4.90	8615	5 ft.	White	2½ lbs.	5.40
8516	6 ft.	Cream	3 lbs.	5.40	8616	6 ft.	White	3 lbs.	6.00

Spring Joint Rules with Patented Folding Hook

Same as above rules except having at one end a small and sturdy metal hook. Ideal for work beyond arms reach, handy for other measuring. Hook readily folds and holds flush with edge, making the rule for use same as those without hook. Zero falls at inside of open hook; at extreme end of rule when hook is closed.



Rivet Joints

Marked Consecutive Inches to 16ths, Both Sides.

No.	Length	Color	Wt., Doz.	Per Doz.	No.	Length	Color	Wt., Doz.	Per Doz.
H-8525	5 ft.	Cream	2½ lbs.	\$5.50	H-8625	5 ft.	White	2½ lbs.	\$6.00
H-8526	6 ft.	Cream	3 lbs.	6.00	H-8626	6 ft.	White	3 lbs.	6.60
H-8528	8 ft.	Cream	4 lbs.	8.40	H-8628	8 ft.	White	4 lbs.	9.20

(Hook supplied on any other rules shown on this page; specify as H-8516, etc.)

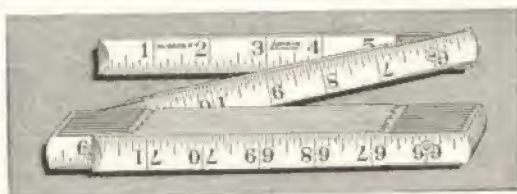
Packing: 3 ft. Rules, 1 doz.; all other lengths, ½ doz. per box.

NOTES: Rules of same quality with Inside Marking; Rules numbered Feet and Inches; and Rules graduated 100ths foot—See page 92.
 Rules graduated Metric and English—See page 98.

Spring Joint Rules

All Rules shown on this page are of **LUFKIN** Standard Grade and Brand.

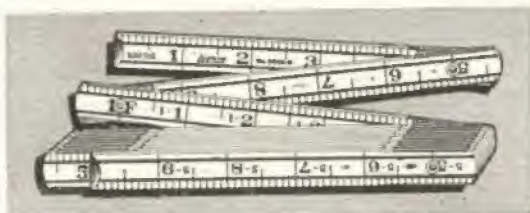
Flexible Hardwood. $\frac{5}{8}$ Inch Wide. Six-inch Folds.
Brass Plated Mountings. Patented Lock Joints.



Rules with Inside Markings

Flat Markings (numbering commences on inside face)
Measurement lies close to the work even when rule is but partly open
Marked Consecutive Inches to 16ths, Both Sides

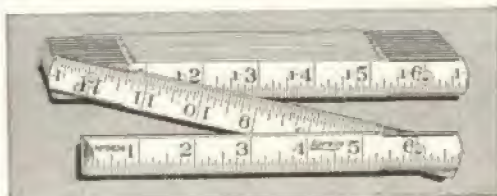
No.	Length	Color	Wt.,	Doz.	Per Doz.	Rivet Joints		No.	Length	Color	Wt.,	Doz.	Per Doz.
						No.	Length						
8524F	4 ft.	Cream	2	lbs.	\$4.20	8624F	4 ft.	White	2	lbs.	\$4.60		
8525F	5 ft.	Cream	2½	lbs.	4.90	8625F	5 ft.	White	2½	lbs.	5.40		
8526F	6 ft.	Cream	3	lbs.	5.40	8626F	6 ft.	White	3	lbs.	6.00		



Engineers, Surveyors and Road Builders Rules ★

Marked Feet, 10ths and 100ths of Feet on Inside; Feet, Inches and 16ths on Outside
Instantaneous Readings (foot numbers in red, repeated each 10th and each inch)

No.	Length	Color	Wt.,	Doz.	Per Doz.	Rivet Joints		No.	Length	Color	Wt.,	Doz.	Per Doz.
						No.	Length						
9525D	5 ft.	Cream	2½	lbs.	\$4.90	9625D	5 ft.	White	2½	lbs.	\$5.40		
9526D	6 ft.	Cream	3	lbs.	5.40	9626D	6 ft.	White	3	lbs.	6.00		



Rules in Feet and Inches

Marked Feet, Inches and 16ths, Both Sides (Inches in each foot numbered one to eleven)
Instantaneous Readings (foot numbers in red and repeated at each inch)

No. 9526	6 ft.	Cream.	Rivet Joints.	Wt. doz. 3 lbs.	Per doz.	\$5.40
No. 9626	6 ft.	White.	Rivet Joints.	Wt. doz. 3 lbs.	Per doz.	6.00

Packing: ½ doz. per box

NOTE: ★"Red End" and Aluminum Rules in 10 ROSE TOOLS, INC. 93 and 99A.

"Red End" Spring Joint Rules

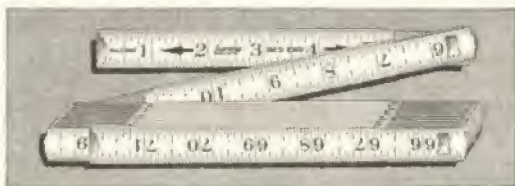
(Reg. U. S. Pat. Off.)

"RED END" RULES OF TWO KINDS ARE LISTED ON THIS PAGE:

- (1) Inch graduation with flat markings (numbering commences on inside face).
- (2) Engineers graduation (100ths of feet), in combination with feet and inches.

Flexible Hardwood. $\frac{5}{8}$ Inch Wide. Six-inch Folds. Patented Lock Joints. Strike Plates. Solid Brass Mountings.

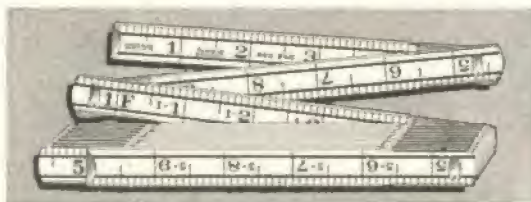
"Red End" Rules **066F**, **056D** and **066D** are the finest of their kind. They are made from choicest materials and are rust-proof throughout. They have concealed joints of solid brass, smooth-working. Brass strike plates on each section prevent wear on markings in opening and closing. Ends brass capped. The patented lock joints are a great aid in maintaining accuracy. These superior rules are well finished in durable, snow white and cream enamels, and have gloss red ends setting them off from all others.



Rule with Inside Markings

Flat Markings (numbering commences on inside face)
Measurement lies close to the work even when rule is but partly open
Marked Consecutive Inches to 16ths, Both Edges of Both Sides

No. 066F "Red End" 6 ft. White Enameled. Wt. doz. $3\frac{1}{2}$ lbs. Per doz. \$7.80



Engineers, Surveyors and Road Builders Rules★

Meet the demand for a Superior 6-foot Wood Rule in Engineers Graduation

Marked Feet, 10ths and 100ths of Feet on Inside;

Feet, Inches and 16ths on Outside

Instantaneous Readings (foot numbers in red, repeated each 10th and each inch)

Eliminating chance of error, these rules have, on the 10ths side, two lines running horizontally the entire length, as illustrated. These lines are in red.

No. 056D "Red End" 6 ft. Cream Enameled. Wt. doz. $3\frac{1}{2}$ lbs. Per doz. \$7.20

No. 066D "Red End" 6 ft. White Enameled. Wt. doz. $3\frac{1}{2}$ lbs. Per doz. 7.80

Packing: $\frac{3}{4}$ doz. per box

NOTE: ★Folding Aluminum Rules in Engineers Graduation (100ths of feet)—See page 99A.

"National" Spring Joint Rules

Our "National" Rules, yellow and white six-foot, are popular priced. They are made to give good service and for those who do not demand the improved features of our better lines. They do not carry "Lufkin" name. They are of good appearance and employed by many dealers as a leader item. Packed $\frac{1}{2}$ dozen per box.

Colored Steel Mountings.
Flexible Hardwood.

$\frac{5}{8}$ Inch Wide.

Concealed Joints.
Six-inch Folds.



Marked Consecutive Inches to 16ths, Both Sides

No. 576	"National."	6 foot.	Yellow.	Wt. doz. 3 lbs.	Per doz.	\$4.00
No. 676	"National."	6 foot.	White.	Wt. doz. 3 lbs.	Per doz.	4.10

"Universal" Spring Joint Rules

These yellow and white six-foot "Universal" are our lowest priced Folding Rules, yet good articles in their class. They do not bear "Lufkin" name. Packed one dozen per box.

Bright Steel Mountings.
Flexible Hardwood.

$\frac{5}{8}$ Inch Wide.

Concealed Joints.
Six-Inch Folds.

Outside or Ordinary Markings (numbering commences on outside face).

Consecutive Inches to 16ths, Both Sides

No. 450	"Universal."	6 foot.	Yellow.	Wt. doz. 3 lbs.	Per doz.	\$3.10
No. 460	"Universal."	6 foot.	White.	Wt. doz. 3 lbs.	Per doz.	3.20

Inside or Flat Markings (numbering commences on inside face).

Consecutive Inches to 16ths, Both Sides

No. 450F	"Universal."	6 foot.	Yellow.	Wt. doz. 3 lbs.	Per doz.	\$3.10
No. 460F	"Universal."	6 foot.	White.	Wt. doz. 3 lbs.	Per doz.	3.20

Narrow Spring Joint Rules

Neat, compact, of highest quality, a miniature of the mechanics full size rule but of about one-half its weight. These appeal most to those who measure only occasionally and wish a wood rule very convenient to carry.

$\frac{7}{16}$ Inch Wide. Four-inch (10 cm.) Folds.

Flexible Hardwood.
Concealed Joints.



Marked Consecutive Inches to 16ths, Both Sides

No. 4503	3 foot.	Cream.	Wt. doz. 1 lb.	Per doz.	\$6.90
No. 4504	4 foot.	Cream.	Wt. doz. 1 $\frac{1}{4}$ lbs.	Per doz.	9.10
No. 4603	3 foot.	White.	Wt. doz. 1 lb.	Per doz.	7.40
No. 4604	4 foot.	White.	Wt. doz. 1 $\frac{1}{4}$ lbs.	Per doz.	9.80

Marked Metric and English

Millimeters on outside; inches to 16ths on inside

No. 4501ME	1 meter.	10 fold.	Cream.	Wt. doz. 1 lb.	Per doz.	\$7.60
No. 4601ME	1 meter.	10 fold.	White.	Wt. doz. 1 lb.	Per doz.	8.10

Packing: $\frac{1}{2}$ doz. per box

ROSE TOOLS, INC.

Folding Extension Rule

SUITABLE FOR BOTH INSIDE AND ALL OTHER COMMON MEASURING

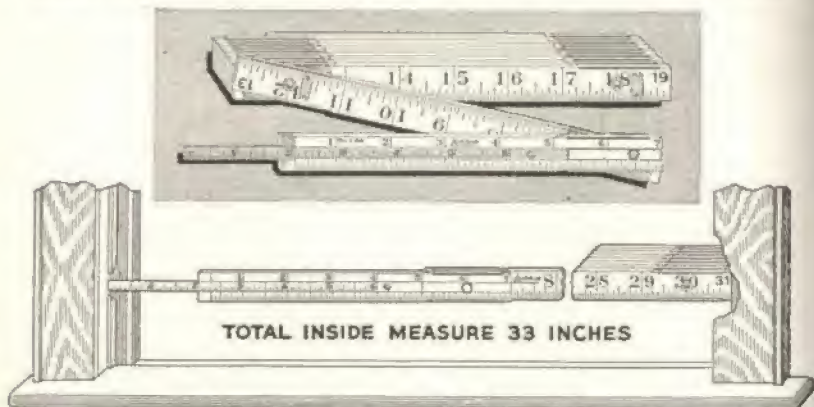
Hardwood in Boxwood Finish.

$\frac{5}{8}$ Inch Wide.

Six-inch Folds.

Brass Plated Spring Joints with Patented Lock.

Strike Plates.



A superior 6-foot Rule, ideal for general measuring and also for taking inside measurements of door and window openings, etc. Serving this dual purpose, No. X-46 is very popular with mechanics in the building trades and with many others.

Made of selected hardwood in a special finish, giving a uniform, light, boxwood color, making the black markings easiest to read. Sections are of extra weight, hence this Rule is more durable and more rigid than ordinary types, this being especially valuable in measuring openings. One of the end sections has a 6-inch graduated brass slide, running under friction in a T slot, and with stop at each end, so it cannot be lost out.

Has strike plates (small brass plate both sides of each section), preventing wear on markings in opening and closing. Smooth-working spring joints properly hold sections in alignment, both open and closed. Lock joints reduce end play, so maintain accuracy. Brass end caps are flush inlaid and riveted.

No. HX-46 has sturdy metal hook, which is ideal for work beyond arm's reach, but readily folds and holds itself flush with rule edge. Zero falls at inside of open hook; at end of Rule when hook is closed.

TO TAKE AN INSIDE MEASUREMENT

Open rule to within 6 inches or less of the distance. Butt its square end against one side of opening, extend brass slide until it strikes other side. Add measurement on slide to that shown at other end of the rule, and you have the exact measure of the opening. The extension slide, being $\frac{1}{4}$ inch wide, is suitable for measuring depth of mortises and other holes. (Inside measuring capacity of these rules is 78 inches.)

Rule Marked Consecutive Inches to 16ths, Both Sides
Brass Extension Slide Marked Inches to 16ths

Number		Wt., Per Doz.	Per Doz.
X-46	6 ft. Folding Extension Rule without Hook.....	4 $\frac{1}{2}$ lbs.	\$12.00
HX-46	6 ft. Folding Extension Rule with Hook.....	4 $\frac{1}{2}$ lbs.	13.20

Packing: $\frac{1}{2}$ doz. per box.

"Rugged" Rule

An extra sturdy Spring Joint Rule for general measuring.

Description: Exactly same as No. X-46, given above, except being without the brass slide.

Marked Consecutive Inches to 16ths, Both Sides

No. 46	"Rugged" Rule. 6 foot. Wt. doz. 4 lbs.....	Per doz. \$9.00
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Plumbers and Steamfitters "Red End" Rule

No. 626

Specially Marked For Pipefitting Work
Suitable As Well For General Measuring



Bears Standard Measurements (in black). Corresponding 45° Lengths (in red).

Strike Plates.

Solid Brass Mountings.

Patented Lock Joints.

Flexible Hardwood.

$\frac{5}{8}$ Inch Wide.

Six-Inch Folds.

This popular Spring Joint Rule now has these superior qualities of our "Red End" line, recognized as the world's finest Rules:

Solid brass strike plates, preventing wear.

Solid brass joints, rust-proof, smoothest working.

Lock joints (shown page 86), reduce end play, maintain accuracy.

Sections of finest hardwood, straight grain, tough, flexible.

Most durable, snow-white enamel finish.

Ends in bright, gloss red, most striking and attractive.

Working with 45° elbows, No. 626 eliminates all figuring, hence avoids many chances of error. Simply turning from the black to the red side gives, at a direct reading, the corresponding 45° or elbow measurement.

EXAMPLE: Take the right angle measure of the offset. Say this is 35 inches. Turn to red side of rule and directly opposite 35 will be found 49 $\frac{1}{4}$ inches, the corresponding 45° length, center to center of pipe fittings. (If the offset exceeds length of rule, simply consider the graduations as feet and fractions instead of inches and fractions.)

Carrying standard inches to 16ths this Rule is perfectly suitable also for all ordinary measuring work.

Markings: Outside, in black 72 standard inches to 16ths.

Inside, red figures 45°-scale inches to 16ths.

No. 626 6 ft. Plumbers "Red End" Rule Per doz. \$9.00

Packing: $\frac{1}{4}$ doz. per box. Weight per doz.: 3 $\frac{1}{2}$ lbs.

ROSE TOOLS, INC.

"Red End" Metric-English Spring Joint Rules

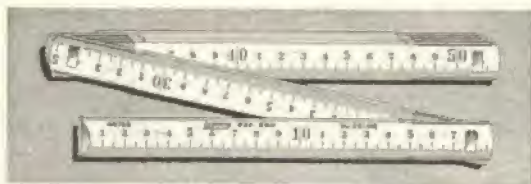
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Flexible Hardwood. $\frac{5}{8}$ Inch (16 mm.) Wide. **Patented Lock Joints.**
Strike Plates. **Solid Brass Mountings.**

These are the highest grade Metric Spring Joint Rules on the market. They are of best selected materials, rust-proof throughout, and superior also in finish and appearance.

Brass strike plates on each section prevent wear on markings in opening and closing. The concealed joints are of solid brass, smooth-working. Ends are brass capped. The patented lock joints aid greatly in maintaining accuracy.

"Red End" Rules are exceptionally well finished in most durable enamels, snow white and cream. The ends are gloss red, most attractive and setting off this line from all others.



In Ordering Rules Below Always Specify, in Addition to Stock Number, the Number of Folds, as "051ME—6 fold," etc.

Marked Metric and English

Millimeters one side; Inches to 16ths other side

Number		Length	Color	Wt., Doz.	Per Doz.
051ME	6 fold	1 meter	Cream	1 $\frac{3}{4}$ lbs.	\$ 3.90
051ME	10 fold	1 meter	Cream	2 $\frac{1}{4}$ lbs.	5.40
052ME	10 fold	2 meter	Cream	3 $\frac{1}{2}$ lbs.	7.20
052ME	12 fold	2 meter	Cream	3 $\frac{3}{4}$ lbs.	7.90
054EM	8 fold	4 foot	Cream	2 $\frac{1}{4}$ lbs.	4.80
061ME	6 fold	1 meter	White	1 $\frac{3}{4}$ lbs.	4.20
061ME	10 fold	1 meter	White	2 $\frac{1}{4}$ lbs.	5.70
062ME	10 fold	2 meter	White	3 $\frac{1}{2}$ lbs.	7.50
064EM	8 fold	4 foot	White	2 $\frac{1}{4}$ lbs.	5.20

All above have Metric outside, English inside, except EM 4-foot, which is the reverse.

Marked Metric, English and Burgos (Spanish)

Millimeters and Burgos one side; Inches to 16ths other side

No. 051MEB	10 fold.	1 meter.	Cream.	Wt. doz. 1 $\frac{3}{4}$ lbs.	Per doz.	\$5.60
No. 052MEB	12 fold.	2 meter.	Cream.	Wt. doz. 3 $\frac{3}{4}$ lbs.	Per doz.	8.10
No. 054EMB	8 fold.	4 foot.	Cream.	Wt. doz. 2 $\frac{1}{4}$ lbs.	Per doz.	5.00



Folding Hook: Patented Hook as here shown and as described page 87, can, at small extra charge, be supplied on any rule listed on this page.

Specify as "H-052ME 10-fold," etc.

Packing: One meter rules 1 doz. per box; All other lengths . . . $\frac{1}{2}$ doz. per box.

NOTES: "Red End" Rules can be supplied also marked: Metric and Norsk (or Danish)-Metric, English and Norsk, Metric and Gamla.

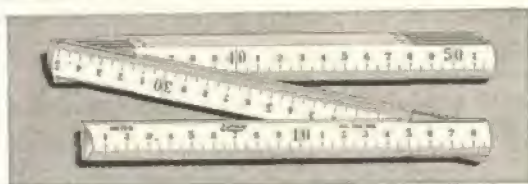
Other Metric-English Spring Joint Rules—See pages 94 and 98.

Metric-English Spring Joint Rules

Flexible Hardwood.
Brass Plated Mountings.

$\frac{5}{8}$ Inch (16 mm.) Wide.
Patented Lock Joints.

In Ordering Any of the Rules Below Always Specify, in Addition to Stock Number, the Number of Folds, as "7511ME 6 fold" etc.



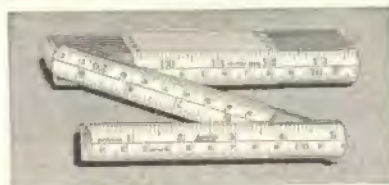
Rules of Metric Lengths, Marked Metric and English
Millimeters on outside; inches to 16ths on inside
Concealed Joints

CREAM ENAMELED					WHITE ENAMELED				
Number		Length	Wt.	Per Doz.	Number		Length	Wt.	Per Doz.
7511ME	6 fold	1 meter	1 $\frac{1}{2}$ lbs.	\$3.00	7611ME	6 fold	1 meter	1 $\frac{1}{2}$ lbs.	\$3.30
7511ME	10 fold	1 meter	2 lbs.	4.20	7611ME	10 fold	1 meter	2 lbs.	4.40
7512ME	10 fold	2 meter	3 lbs.	5.10					
7512ME	12 fold	2 meter	3 $\frac{1}{4}$ lbs.	5.40	7612ME	12 fold	2 meter	3 $\frac{1}{4}$ lbs.	5.80



Rules of English Lengths, Marked English and Metric
Inches to 16ths on outside; millimeters on inside
Rivet Joints

No. 8524EM	8 fold.	4 foot.	Cream.	Wt. doz. 2	lbs.	Per doz.	\$4.20
No. 8525EM	10 fold.	5 foot.	Cream.	Wt. doz. 2 $\frac{1}{2}$	lbs.	Per doz.	4.90
No. 8526EM	12 fold.	6 foot.	Cream.	Wt. doz. 3	lbs.	Per doz.	5.40
No. 8624EM	8 fold.	4 foot.	White.	Wt. doz. 2	lbs.	Per doz.	4.60
No. 8626EM	12 fold.	6 foot.	White.	Wt. doz. 3	lbs.	Per doz.	6.00



Marked Metric, English and Burgos (Spanish)
Millimeters and Burgos one side; Inches to 16ths other side

No. 7511MEB	10 fold.	1 meter.	Cream.	Concealed Joints	Per doz.	\$4.30
No. 8514EMB	8 fold.	4 foot.	Cream.	Concealed Joints	Per doz.	4.20

Folding Hook, as illustrated page 97, can, at small extra charge, be supplied on any rule listed on this page. Specify as "H-7512ME 10 fold," etc.

Packing: One meter rules, 1 doz. per box; All other lengths, $\frac{1}{2}$ doz. per box.

Note: "Red End" and Narrow Pattern Metric-English Rules—See pages 97 and 94.

ROSE TOOLS, INC.

Aluminum Rules

Durable and Accurate Folding Rules for General Use

$\frac{9}{16}$ Inch Wide.
Solid Brass Joints.

Six-inch Folds.
Rust-proof Throughout.

Aluminum Rules are more durable than wood rules, lighter weight and lower in price than steel rules, therefore popular in the building trades, on all construction work, and in mills, shops, etc.

Our rules are of a special hardness, hence hold their shape well. They are of size and pattern convenient to carry. The sunken graduation marks and large figures, all in black, are easy to read, contrasting with the natural dull aluminum of the rule. The solid brass spring joints properly hold the sections in alignment, both when rule is open and closed. The joints are rivet type, rivet passes through both the brass joint plates and the aluminum rule sections. The large rivet heads and washers are flush embedded in the metal, very securely holding the rule to length.

We offer Aluminum Rules also with folding hook. This is a small yet sturdy brass hook attached to one end. It is ideal for work beyond arms reach and handy in other measuring. This patented hook can readily be folded up and then holds itself flush with the edge, making the rule for use same as those without hook. Zero falls at inside of open hook; at extreme end of rule when hook is closed.



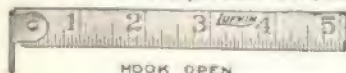
ALUMINUM RULES WITHOUT HOOK

Marked Consecutive Inches to 16ths, Both Sides

No. 1204	4 ft. Aluminum Rule.....	Per doz.	\$10.60
No. 1205	5 ft. Aluminum Rule.....	Per doz.	13.20
No. 1206	6 ft. Aluminum Rule.....	Per doz.	15.60
*No. 1206F	6 ft. Aluminum Rule.....	Per doz.	15.60

*Same as No. 1206 except having Inside or Flat markings (numbering commencing on inside face). Thus the measurement is close to the work even when rule is but partly open.

Wt. per doz.: 4-ft., 3 $\frac{1}{4}$ lbs.; 5-ft., 4 $\frac{1}{4}$ lbs.; 6-ft., 5 lbs.



HOOK OPEN



HOOK CLOSED

ALUMINUM RULES WITH FOLDING HOOK

Marked Consecutive Inches to 16ths, Both Sides

No. H-1205	6 ft. Aluminum Rule with Hook....	Per doz.	\$16.80
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Weight per doz., 5 lbs.

NOTE: Hook can be supplied on 4 and 5 ft. rules at \$1.20 per dozen additional to prices of Nos. 1204 and 1205. Specify as "H-1204" and "H-1205."

Packing: $\frac{1}{4}$ doz. per box

Aluminum Rules

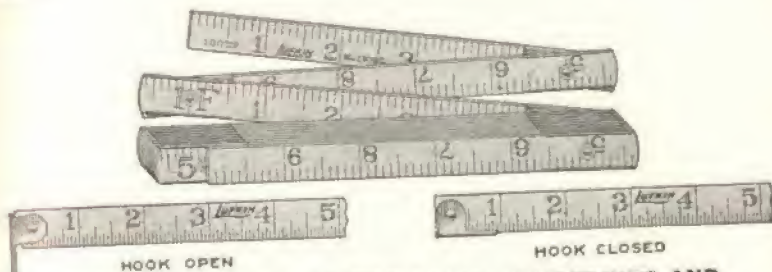
Engineers Rules.

$\frac{3}{16}$ Inch Wide.
Solid Brass Joints.

English-Metric Rules.

Six-inch Folds.
Rust-proof Throughout.

These Rules differ only in graduation from those on preceding page. See that page for details of their construction and their other improved features.



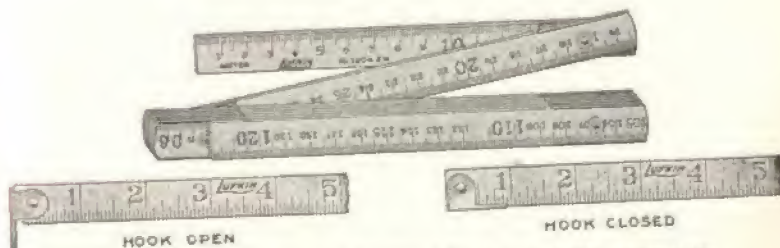
ALUMINUM RULE FOR ENGINEERS, SURVEYORS AND ROAD BUILDERS

WITHOUT HOOK.

WITH FOLDING HOOK.

Marked Feet, 10ths and 100ths of Feet on Inside;
Feet, Inches and 16ths on Outside

No. 1306D	6 ft. Aluminum Rule without Hook	Per doz.	\$18.00
No. H-1306D	6 ft. Aluminum Rule with Hook	Per doz.	19.20
Weight per doz., 5 lbs. Packing: $\frac{1}{4}$ doz. per box			



ALUMINUM RULE MARKED ENGLISH AND METRIC

WITHOUT HOOK.

WITH FOLDING HOOK.

Marked Millimeters Inside; Inches to 16ths Outside

No. 1204EM	4 ft. Aluminum Rule without Hook	Per doz.	\$11.50
No. H-1204EM	4 ft. Aluminum Rule with Hook	Per doz.	12.70

Weight per doz., 3 $\frac{1}{4}$ lbs. Packing: $\frac{1}{4}$ doz. per box

ROSE TOOLS, INC.

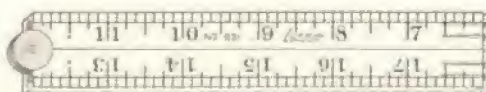
Maple Rule No. 48

Selected Hard Maple in Boxwood Finish

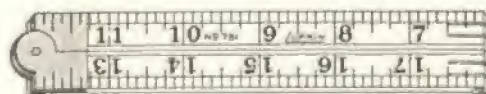


- No. 48 (27) Maple Rule. Two Foot. Four Fold. Unbound...** Per Doz. \$1.00
 One inch wide. Round joint. Middle plates.
 Marked: 8ths and 16ths inch. Brass mountings.
 Uniform, light, boxwood color, making the prominent black markings easy to read.
 Packing: 1 doz. per box. Wt. per doz.: 1¼ lbs.

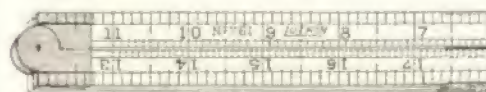
Boxwood Rules



- No. 651 (68) Boxwood Rule. Two Foot. Four Fold. Unbound...** Per Doz. \$2.40
 One inch wide. Round joint. Middle plates.
 Marked: 8ths and 16ths inch.
 Markings and figures very prominent.
 Our lowest priced boxwood rule.



- No. 751 (61) Boxwood Rule. Two Foot. Four Fold. Unbound...** Per Doz. \$5.50
 One inch wide. Square joint. Middle plates.
 Marked: 8ths and 16ths inch.
 Markings and figures very prominent.
 Largest seller among medium priced rules.

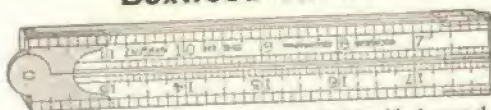


- No. 761 (63) Boxwood Rule. Two Foot. Four Fold. Unbound...** Per Doz. \$9.00
 One inch wide. Square joint. Edge plates.
 Marked: 8ths, 10ths, 12ths and 16ths inch, and drafting scales.
 Wide range of markings. Edge plates add strength.

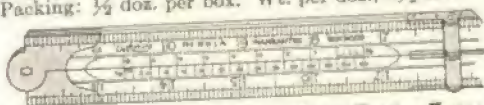


- No. 851 (51) Boxwood Rule. Two Foot. Four Fold. Unbound...** Per Doz. \$9.00
 One inch wide. Arch joint. Middle plates.
 Marked: 8ths, 10ths, 12ths and 16ths inch, and drafting scales.
 Arch joint is strong and of fine appearance.
 Packing: No. 651... 1 doz. per box Nos. 751, 761, and 851... ½ doz.
 Wt. per doz.: No. 651... 1¼ lbs. Nos. 751, 761, and 851... 1½ lbs.

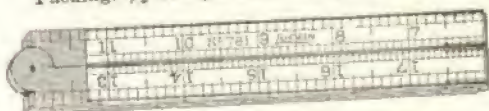
Boxwood Rules



- No. 861 (53) **Boxwood Rule. Two Foot. Four Fold. Unbound**... Per Doz. \$10.00
 One inch wide. Arch joint. Edge plates.
 Marked: 8ths, 10ths, 12ths and 16ths inch, and drafting scales.
 Edge plates and arch joint, strong and attractive.
 Packing: $\frac{1}{2}$ doz. per box. Wt. per doz., $1\frac{1}{2}$ lbs.



- No. 861A (53) $\frac{1}{2}$ **Architects Boxwood Rule. Two Foot. Four Fold. Unbound**... Per Doz. \$12.60
 One inch wide. Arch joint. Edge plates.
 Marked: $\frac{1}{8}$, $\frac{1}{4}$, $\frac{3}{8}$ and $\frac{1}{2}$ inch architects scales, and inches to 8ths, 10ths, 12ths and 16ths. Inside edges carrying scales are beveled, hence lie close to the work. Rule designed for work on drawings and plans, and suitable for general use.
 Packing: $\frac{1}{2}$ doz. per box. Wt. per doz., $1\frac{1}{2}$ lbs.



- No. 781 (62) **Boxwood Rule. Two Foot. Four Fold. Full Bound**... Per Doz. \$14.40
 One inch wide. Square joint. Marked: 8ths, 10ths, 12ths and 16ths inch, and drafting scales. Both edges brass bound. A most durable, practical and popular rule.
 Packing: $\frac{1}{2}$ doz. per box. Wt. per doz., $2\frac{1}{2}$ lbs.

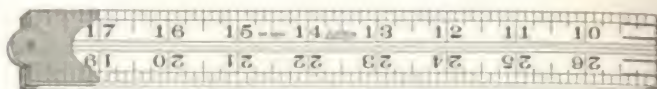
- No. 780 (62) $\frac{1}{2}$ **Boxwood Rule. Two Foot. Four Fold. Full Bound**... Per Doz. \$14.40
 Three-quarter inch wide. Square joint.
 Marked: 8ths, 10ths, 12ths and 16ths inch.
 A narrow rule, handy to carry, yet durable.
 Packing: $\frac{1}{2}$ doz. per box. Wt. per doz., 2 lbs.



- No. 881 (54) **Boxwood Rule. Two Foot. Four Fold. Full Bound**... Per Doz. \$15.60
 One inch wide. Arch joint. Marked: 8ths, 10ths, 12ths and 16ths inch, and drafting scales. Both edges brass bound and rule having arch joint, is most attractive as well as sturdy.
 Packing: $\frac{1}{2}$ doz. per box. Wt. per doz., $2\frac{1}{2}$ lbs.

- No. 881D **Engineers Boxwood Rule. Two Foot. Four Fold. Full Bound**... Per Doz. \$15.80
 One inch wide. Arch joint. Both edges brass bound.
 Marked: 10ths and 100ths of feet one side; inches to 10ths and 16ths other side.
 Popular in some kinds of city and other engineering.
 Packing: $\frac{1}{2}$ doz. per box. Wt. per doz., $2\frac{1}{2}$ lbs.

Boxwood Rules



- No. 3851** (66½) **Boxwood Rule. Three Foot. Four Fold.**
Unbound Per Doz. \$8.00
 One inch wide. Arch joint. Middle plates.
 Marked: 8ths and 16ths inch.
 Markings and figures very prominent.
 Our most popular and lowest priced 3-ft. boxwood rule.
 Packing: ½ doz. per box. Wt. per doz., 2 lbs.



- No. 3861** (66¼) **Boxwood Rule. Three Foot. Four Fold.**
Unbound Per Doz. \$10.60
 One inch wide. Arch joint. Edge plates.
 Marked: 8ths and 16ths inch.
 A good 3-ft. rule, medium in price.
 Packing: ½ doz. per box. Wt. per doz. 2 lbs.



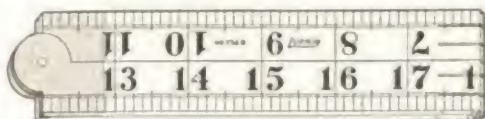
- No. 3881** (66¾) **Boxwood Rule. Three Foot. Four Fold.**
Full Bound Per Doz. \$23.10
 One inch wide. Arch joint.
 Marked: 8ths and 16ths inch.
 The best 3-ft. boxwood rule, both edges brass bound.
 Packing: ½ doz. per box. Wt. per doz. 3¼ lbs.



- No. 4883** (94) **Boxwood Rule. Four Foot. Four Fold.**
Full Bound Per Doz. \$42.00
 1½ inch wide. Arch joint.
 Marked: 8ths and 16ths inch.
 A sturdy 4-ft., being brass bound both edges, and of ample width.
 Popular with stone workers and many others.
 Packing: ½ doz. per box. Wt. per doz. 5½ lbs.

Blindmans Boxwood Rules

Rules 752B and 3752B are substantial and have extra large and heavy black figures, very easy to read, hence the name "Blindmans." They are suitable for use in poor light or by persons with poor eyesight.



No. 752B (7)

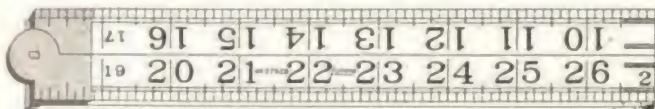
**Blindmans Boxwood Rule. Two Foot.
Four Fold. Unbound**

Per Doz. \$12.60

1 $\frac{3}{8}$ inch wide. Square joint. Middle plates.

Marked: 8ths and 16ths inch.

Packing: $\frac{1}{2}$ doz. per box. Wt. per doz., 2 lbs.



No. 3752B (170BE)

**Blindmans Boxwood Rule. Three Foot.
Four Fold. Unbound**

Per Doz. \$13.10

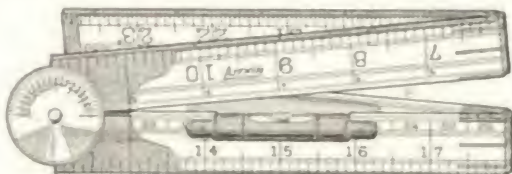
1 $\frac{3}{8}$ inch wide. Square joint. Middle plates.

Marked: 8ths and 16ths inch.

Packing: $\frac{1}{2}$ doz. per box. Wt. per doz., 3 lbs.

Boxwood Combination Rule, Level and Protractor

Rules 863L and 873L have spirit level and brass protractor plate. They are sturdy and serve so many purposes that they are becoming increasingly popular. Very handy for carpenters and other mechanics, also for use around mines and for general use. They are not only practical rules, but, in ordinary work, with the aid of the protractor plate, angles of any degree are readily measured or laid out. The level is also very convenient. It is mounted in brass tube, and when rule is closed, is well protected.



No. 863L

**Boxwood Combination Rule, Level and Protractor.
Two Foot. Four Fold. Unbound**

Per Doz. \$21.75

1 $\frac{1}{2}$ inch wide. Arch joint. Edge plates.

Marked: 8ths and 16ths inch, and drafting scales.

Packing: One in a box. Weight each 4 ozs.

No. 873L

**Boxwood Combination Rule, Level and Protractor.
Two Foot. Four Fold. Outer Edge Brass Bound**

Per Doz. \$30.40

1 $\frac{1}{2}$ inch wide. Arch joint.

Marked: 8ths and 16ths inch, and drafting scales.

Packing: One in a box. Weight each, 5

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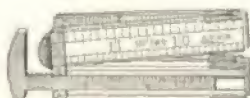
Boxwood Caliper Rules

Caliper Rules are universally used in stores, warehouses, shops and mills, for measuring pipe and fittings, rods, bars, sheets, bolts, nuts, etc. One leg of these rules has brass caliper slide marked to 16ths and 32nds of inches. The rule itself is also graduated, hence suitable for usual measuring.

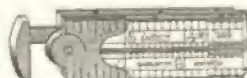


- No. 171 (36) Boxwood Caliper Rule. Six inch. Two Fold.**
Unbound Per Doz. \$0.00
 One inch wide. Square joint.
 Marked: Rule, 8ths, 10ths, 12ths and 16ths inch.
 Caliper, 16ths and 32nds inch.
 A compact pocket rule and caliper.
 Packing: $\frac{1}{2}$ doz. per box. Wt. per doz., 1 lb.

- No. 172 (13 $\frac{1}{2}$) Boxwood Caliper Rule. Six Inch. Two Fold.**
Unbound Per Doz. \$12.10
 1 $\frac{3}{8}$ inch wide. Square joint. Brass bit plate.
 Marked: Rule, 8ths and 16ths inch.
 Caliper, 16ths and 32nds inch.
 A short, sturdy rule and caliper.
 Packing: $\frac{1}{2}$ doz. per box. Wt. per doz., 1 $\frac{1}{4}$ lbs

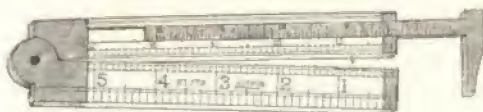


- No. 386 (32) Boxwood Caliper Rule. One Foot. Four Fold.**
Unbound Per Doz. \$14.40
 One inch wide. Arch joint. Edge plates.
 Marked: Rule, 8ths, 10ths, 12ths and 16ths inch.
 Caliper, 16ths and 32nds inch.
 Vest pocket size, yet opens to one foot.
 Packing: $\frac{1}{2}$ doz. per box. Wt. per doz., 1 $\frac{1}{2}$ lbs.

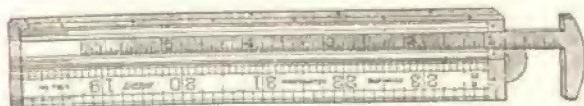


- No. 388 (32 $\frac{1}{2}$) Boxwood Caliper Rule. One Foot. Four Fold.**
Full Bound Per Doz. \$18.40
 One inch wide. Arch joint.
 Marked: Rule, 8ths, 10ths, 12ths and 16ths inch.
 Caliper, 16ths and 32nds inch.
 Brass bound both edges, a most durable 1-ft. rule, folds to three inches.
 Packing: $\frac{1}{2}$ doz. per box. Wt. per doz., 1 $\frac{3}{4}$ lbs.

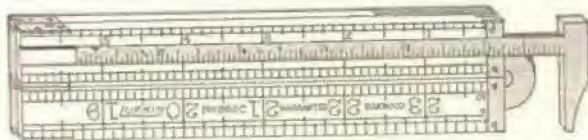
Boxwood Caliper Rules



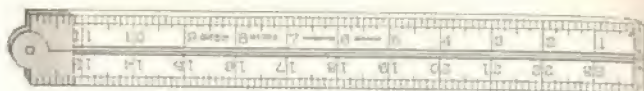
- No. 372 (36½") **Boxwood Caliper Rule. One Foot. Two Fold.**
Unbound Per Doz. \$12.10
 1¾ inch wide. Square joint. Brass bit plate.
 Marked: Rule, 8ths, 10ths, 12ths and 16ths inch.
 Caliper, 16ths and 32nds inch.
 A sturdy and popular rule, with caliper of good length.
 Packing: ½ doz. per box. Wt. per doz., 1¾ lbs.



- No. 781C (62") **Boxwood Caliper Rule. Two Foot. Four Fold.**
Full Bound Per Doz. \$25.00
 One inch wide. Square joint.
 Marked: Rule, 8ths, 10ths, 12ths and 16ths inch.
 Caliper, 16ths and 32nds inch.
 Very practical and popular both as rule and caliper.
 A caliper of good length, in a standard size 2-ft. rule
 with both edges brass bound.
 Packing: ½ doz. per box. Wt. per doz., 2¾ lbs.



- No. 862C (83") **Boxwood Caliper Rule. Two Foot. Four Fold.**
Unbound Per Doz. \$22.20
 1¾ inch wide. Arch joint. Edge plates.
 Marked: Rule, 8ths, 10ths and 16ths inch.
 Caliper, 16ths and 32nds inch.
 Caliper slide of good range in a wide rule.
 Packing: ½ doz. per box. Wt. per doz., 2¾ lbs.



Manual Training Rule

No. 703 (18) Manual Training Boxwood Rule. Two Foot.....Per Doz. \$7.00

Two Fold. Unbound. $1\frac{1}{2}$ inch wide. Square joint.

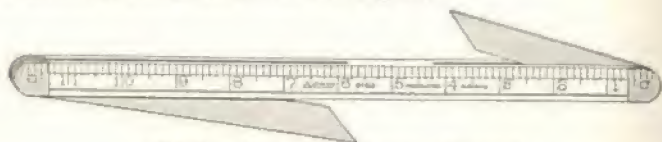
Marked: 8ths and 16ths inch.

Popular in manual training and vocational schools.

Packing: $\frac{1}{2}$ doz. per box. Wt. per doz., 2 lbs.

NOTES: For 1-ft. 1-piece manual training wood rules—See page 120.

For Manual Training Steel Rules—See page 135.



Ship Carpenters Bevel

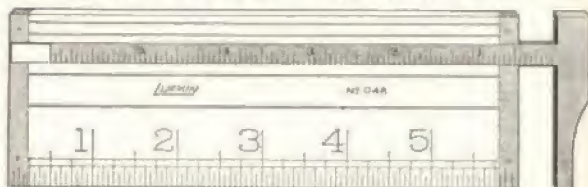
No. 42 Ship Carpenters Bevel. Boxwood. One Foot.....Per Doz. \$10.00

With two brass tongues or bevels, which fold into the rule.

$\frac{5}{8}$ inch wide. Rule marked 8ths and 16ths inch.

Well adapted to work such as that of ship carpenters.

Packing: 1 doz. per box. Wt. per doz., 2 lbs.



Spoke Caliper Rule

No. 046 Spoke Caliper Rule. Boxwood. Six Inch.....Per Doz. \$25.00

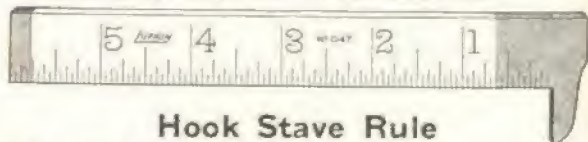
Two inches wide. Depth of caliper jaw $1\frac{1}{8}$ inch.

Marked: Caliper and rule in 16ths inch.

A one-piece boxwood rule with brass caliper slide.

Designed to measure diameter of wood spokes for automobile and other wheels. This wide and sturdy caliper gage is useful in other fields also.

Packing: $\frac{1}{2}$ doz. per box. Wt. per doz., 2 lbs.



Hook Stave Rule

No. 047 Hook Stave Rule. Boxwood. Six Inch.....Per Doz. \$12.10

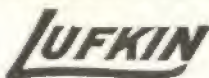
Three-Quarter inch wide. Hook extends $\frac{5}{8}$ inch.

Marked: Inches to 16ths, lower edge, both sides.

A one-piece boxwood rule with substantial brass hook at first end-brass cap at last end. Zero falls at inside of solid hook. This rule is designed to measure barrel staves, and is very handy also for other hook measuring.

Packing: $\frac{1}{2}$ doz. per box. Wt. per doz., 1 lb.

Section Five



**LUMBER RULES
BILTMORE STICK
BOOT CALKS**

**LOG CALIPERS
MARKING STICK
CALK SETS**

Et Cetera

The name **LUFKIN** has been most closely associated with the making of Lumber Rules for well over half a century. Lumber Rules (also known as Board and Log Rules) are the original line of our manufacture. While other lines were added by us through the years, the Board and Log Rule Department is still one of our important Divisions.

Thus our Lumber Rules are the product of many years of experience and constant improvement and are most widely and favorably known.

The method of using these Rules is briefly stated here as there may be some unfamiliar with it and who have no experienced scaler at hand to consult.

Scaling Boards:

Board length is known at a glance. Lay the Board Rule across the board. Follow the tier of figures for that length board. In that tier, at the point where the width of the board comes, appears its scale in board feet.

Scaling Logs:

Log length is estimated. Apply the Log Rule across center of end of log. In the tier of figures for log of that length, at the point where diameter of the log comes, is found the board foot content of that log according to the scale used, be it Doyle, Scribner or other scale. (Most commonly the rule is applied to the small end of the log and reading taken inside both barks, but on these points practice varies greatly with taper and other characteristics of the logs, local custom, etc.)

The various log scales were built up over many years from experience with different varieties of timber, in the woods and at the mills. All log scaling is somewhat approximate. There is such great variation in the kinds, the nature and the grades of timber, in the taper, the crooks, defects, etc., in the logs, that it is not surprising there are so many log scales in existence and that they differ so greatly. However, there are but four that continue extensively in use, the Doyle, the Scribner, the Combination Doyle-Scribner and the Decimal C. The proper scale to be used and the method of use must be governed quite largely by the judgment of the scaler, by local custom or by agreement between buyer and seller.

A printed table giving values of a 16-foot log in twelve different log scales will be sent to interested parties on request.

The other items shown in this section of Catalog, enumerated top of this page, have for years been very well known among loggers and lumbermen.

Further General Information on Board and Log Rules—See page 116.

Tree Tapes—See page 18.

Hickory Board Rules

General Description

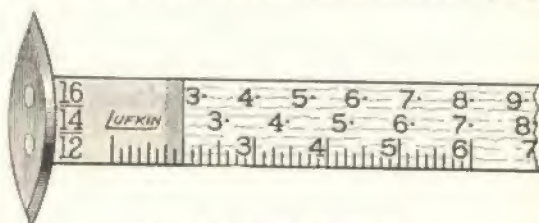
Rule sticks riven from clear, second growth, white hickory. Properly air dried to retain life of the wood and make a tough, flexible rule. Skillfully formed and tapered to flex to the board and to handle nicely. Heads are steel cap brazed to brass shoulders and securely riveted to rule. Burned-in figures and markings, most permanent and prominent. Six-inch wedge handle, glued, riveted and rounded. Board lengths stamped into brass shoulders of head and burned into handle end of each rule. All rules well finished to resist dampness.

Select Hickory.

Burnt Figures and Markings.

All Rules On This Page Are Regularly Furnished Marked 8/18, Oval Head

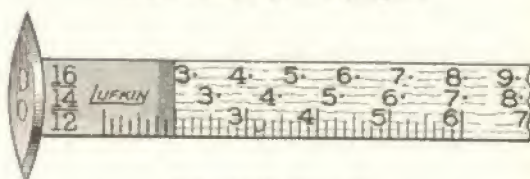
6/16 or 12/22 marking furnished on any of them at no extra. Specify if wanted.
Square Head furnished on any Rule on this page at no extra. Specify if wanted.



RULES 1 1/8 INCH WIDE

No.		Width	Tiers	Marked	Figured	Overall	Head	Per Doz.
1	Board Rule	1 1/8 in.	3	8/18	36 in.	42 in.	Oval	\$49.30
2	Board Rule	1 1/8 in.	3	8/18	30 in.	36 in.	Oval	45.80
2 1/2	Board Rule	1 1/8 in.	3	8/18	24 in.	30 in.	Oval	44.00
3	Board Rule	1 1/8 in.	3	8/18	30 in.	36 in.	Oval	42.30

(Head of No. 3 Rule has 1 1/2 inch brass shoulders; all others 2 inch.)
Average weight per doz., 6 1/2 lbs.



NARROW RULES

No.		Width	Tiers	Marked	Figured	Overall	Head	Per Doz.
1N	Board Rule	1 in.	3	8/18	36 in.	42 in.	Oval	\$49.30
1XN	Board Rule	3/4 in.	3	8/18	36 in.	42 in.	Oval	49.30
2N	Board Rule	1 in.	3	8/18	30 in.	36 in.	Oval	45.80
2XN	Board Rule	3/4 in.	3	8/18	30 in.	36 in.	Oval	45.80

Average weight per doz., 6 lbs.

8/18 Rules measure one side 12, 14, 16; other side 8, 10, 18 foot lengths.

12/22 Rules measure one side 12, 14, 16; other side 18, 20, 22 foot lengths.

6/16 Rules measure one side 12, 14, 16; other side 6, 8, 10 foot lengths.

NOTES: At an extra charge these rules can be supplied with markings other than listed above.
Rules Same as Above But with Half-Foot Marks—See page 109.
Square Head—Illustrated page 110.

Hickory Board Rules with Half-Foot Marks

Extensively Used by Members of
National Hardwood Lumber Association

Select Hickory.

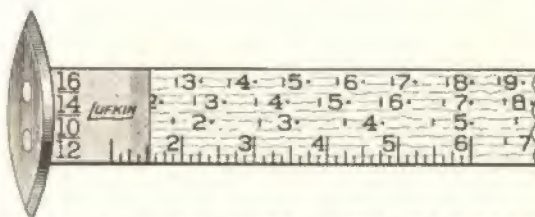
Burnt Figures and Markings.

(General Description—Top of Page 108)

Half-foot marks appear on all Rules shown on this page. The half feet are indicated by vertical dashes, the feet by dots. These rules are used by members of the above association and are coming more and more into general use, particularly by those who handle hardwoods.

All 3-Tier Rules on This Page Are Regularly Furnished Marked 8/18, Oval Head Rules 08 and 08N Are Marked with Even and Odd Lengths, 9/16 Feet, Oval Head

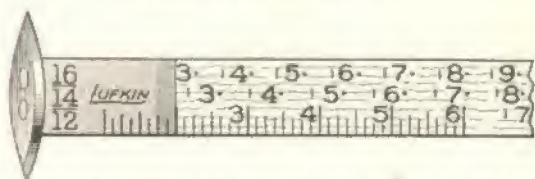
6/16 or 12/22 marking furnished on any 3-tier Rule at no extra. Specify if wanted. Square Head furnished on any Rule on this page at no extra. Specify if wanted.



RULES 1 1/8 AND 1 3/16 INCH WIDE, WITH HALF-FOOT MARKS

No.		Width	Tiers	Marked	Figured	Overall	Head	Per Doz.
01	Board Rule	1 1/8 in.	3	8/18	36 in.	42 in.	Oval	\$52.80
02	Board Rule	1 1/8 in.	3	8/18	30 in.	36 in.	Oval	49.30
08	Board Rule	1 3/16 in.	4	9/16	30 in.	36 in.	Oval	49.30

Average weight per doz., 7 lbs.



NARROW RULES WITH HALF-FOOT MARKS

No.		Width	Tiers	Marked	Figured	Overall	Head	Per Doz.
01N	Board Rule	1 in.	3	8/18	36 in.	42 in.	Oval	\$52.80
02N	Board Rule	1 in.	3	8/18	30 in.	36 in.	Oval	49.30
02XN	Board Rule	3/4 in.	3	8/18	30 in.	36 in.	Oval	49.30
02VN	Board Rule	3/4 in.	3	8/18	30 in.	36 in.	Oval	49.30
08N	Board Rule	1 in.	4	9/16	30 in.	36 in.	Oval	49.30

Average weight per doz., 6 lbs.

8/18 Rules measure one side 12, 14, 16; other side 8, 10, 18 foot lengths.

9/16 Rules measure one side 12, 10, 14, 16; other 9, 11, 13, 15 foot lengths.

12/22 Rules measure one side 12, 14, 16; other side 18, 20, 22 foot lengths.

6/16 Rules measure one side 12, 14, 16; other side 6, 8, 10 foot lengths.

Notes: At an extra charge these rules can be supplied with markings other than listed above. Square Head—Illustrated on page 110.

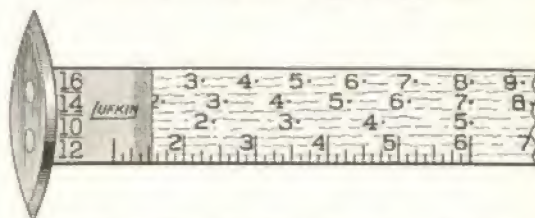
ROSE TOOLS, INC.

Hickory Board Rules

Select Hickory.

Burnt Figures and Markings.

(General Description—Top of Page 108)



No.		Width	Tiers	Marked	Figured	Overall	Head	Per Doz.
8	Board Rule	1 3/8 in.	4	9/16★	30 in.	36 in.	Oval	\$45.80
10	Board Rule	1 1/2 in.	5	7/16	30 in.	36 in.	Oval	55.50

Weight per doz.: No. 8, 7 lbs.; No. 10 7 1/2 lbs.

★Rule No. 8 can be supplied marked 8/22 at no extra. Specify if wanted.

Rule No. 8 can, in 9/16 marking, be supplied for left hand use, at no extra.

Specify if wanted.

Square Head, see below.

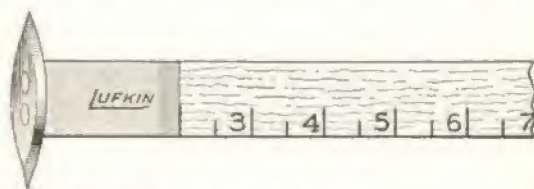
9/16 Rules measure one side 12, 10, 14, 16; other 9, 11, 13, 15 foot lengths.

8/22 Rules measure one side 12, 14, 16, 18; other 8, 10, 20, 22 foot lengths.

7/16 Rules measure one side 12, 13, 14, 15, 16; other 7, 8, 9, 10, 11 foot lengths.

NOTES: At an extra charge Rules No. 8 and 10 can be furnished with markings other than listed above.

Four-Tier Rules with Half-Foot Marks—See Nos. 08 and 08N, page 109.

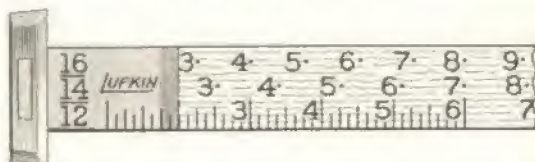


No. 50 Export Rule. Width: 1 inch. Oval Head. Per doz. \$45.80

Marked both sides in inches and half inches only

Figured: 30 inches. Overall length: 36 inches

Weight per doz., 5 1/2 lbs.



Board Rule Square Head is here shown. It differs from Oval Head only in the shape of the cap. Square Head can be furnished, at no extra charge, on any of our Board Rules or Combination Board and Log Rules, pages 108 to 111. Oval Head is much more popular and is regularly furnished. While we stock Square Head Board Rules, we supply them only when orders so specify.

Spring Steel Board Rule

Dull Nickel Plated Finish



Extra durable yet of medium weight. Made of best quality spring tempered steel, this Rule bends nicely to the board yet returns straight and holds its shape well. Figures and markings are sunken and black, most permanent and easy to read against the dull nickel plated finish of the rule, which finish also resists rust. Rule has leather slide for handling the blade. It has round wood handle, 6 inches long. Head and handle are very securely attached.

No. 52 Steel Board Rule. 3-tier. Width: 1 inch. Oval Head.

Marked: 8/18. One side 12, 14, 16; other side 8, 10, 18 ft. lengths.

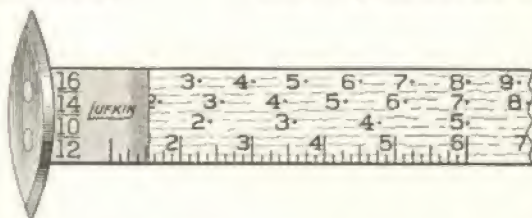
Figured: 30 inches. Overall length: 36 inches. Wt. per doz., 15 lbs.

Price per doz. \$110.90
(Can also be supplied with Square Head; also with 12/22 marking)

Combination Board and Log Rules

Select Hickory.

Burnt Figures and Markings.



Flexible Hickory Rules, exactly same as standard Board Rules, except carrying both board measure and log scale. While these Combination Rules are carried in stock only in Doyle Log Scale, they can, without extra charge, be supplied also in the other Scales mentioned below.

One side marked in standard board measure for 12, 10, 14 and 16 foot boards. Other side marked in log scale for 12, 10, 14 and 16 foot logs.

No.	Width	Tiers	Log Scale	Figured	Overall Length	Head	Per Doz.
13	1 1/4 in.	4	Doyle	30 in.	36 in.	Oval	\$52.00
13 1/2	1 3/4 in.	4	Doyle	36 in.	42 in.	Oval	55.50

Weights per doz. 7 and 7 1/2 lbs.

Doyle is furnished unless other Log Scale is specified.

Other Log Scales supplied: Scribner, Doyle-Scribner, Decimal C.

Square Head—Price same as regular Oval Head. Specify if wanted.

Special Markings—Can be supplied on these **CROSE TOOLS, INC.** at an extra charge.

Hickory Log Rules

General Description

Our Log Rule Sticks are riven from selected, second growth, white hickory, clear tough stock. They are air dried to retain the life of the wood. All handles are of the wedge type, nicely formed. Dimensions of all, except the square and full flexible Log Rules, are approximately $1\frac{1}{2} \times \frac{3}{8}$ inch. The figures are large and, together with the lines, etc., are burned-in, making them permanent and easy to read. The heads are strong, well proportioned and securely attached. All Rules are well finished to resist dampness, etc.

Select Hickory.

Burnt Figures and Lines.



No. 14 Square Head Log Rule..... Per doz. \$49.30

Figured: 48 inches. Overall length: 56 inches.

Regular Scales: Doyle. Scribner. Doyle-Scribner.

Decimal C. Minnesota Standard.

Regular Markings: 8/20 and 12/24 feet.★ Wt. per doz., $10\frac{1}{2}$ lbs.

Always Specify: Number, Scale and Marking

★In Minnesota Standard regular marking is 12/22.

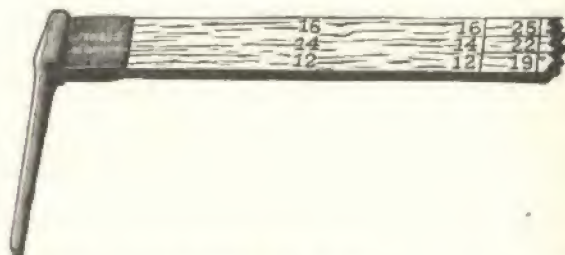
No. 15 Square Head Log Rule..... Per doz. \$42.30

Figured: 36 inches. Overall length: 42 inches.

Regular Scales: Doyle. Scribner. Doyle-Scribner. Decimal C.

Regular Markings: 8/20 and 12/24 feet. Wt. per doz., $8\frac{1}{4}$ lbs.

Always Specify: Number, Scale and Marking



No. 16 Hook Log Rule. Hook extends $3\frac{3}{4}$ inches..... Per doz. \$49.30

Figured: 48 inches. Overall length: 56 inches.

Regular Scales: Doyle. Scribner. Doyle-Scribner. Decimal C.

Regular Markings: 8/20 and 12/24 feet. Wt. per doz., $11\frac{1}{2}$ lbs.

Always Specify: Number, Scale and Marking

8/20 Rules carry log lengths 8, 10, 12, 14, 16, 18 and 20 feet, and one row of inches.

12/24 Rules carry log lengths 12, 14, 16, 18, 20, 22 and 24 feet, and one row of inches.

Both have 3 tiers of figures on each side and one tier on each edge.

Notes: Scribner-Doyle and Decimal A or B Scale Rules also furnished; no extra charge.

Rules on this page in log scales other than regular or marked for lengths other than

8/20 or 12/24, supplied at extra charge.

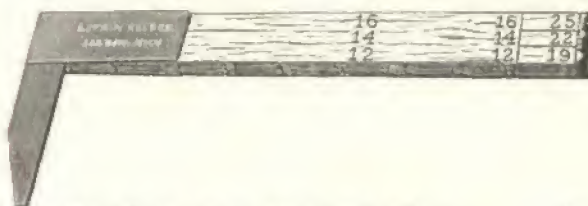
Tree Tapes—See page 18.

Hickory Log Rules

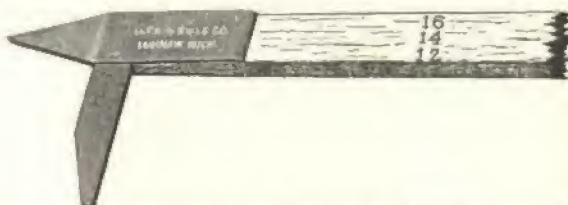
Select Hickory.

Burnt Figures and Lines.

(General Description—Top of Page 112)



- No. 16 1/2 Flat Hook Log Rule. Hook extends 3 1/2 inches. Per doz. \$52.00
 Figured: 48 inches. Overall length: 56 inches.
 Regular Scales: Doyle. Scribner. Doyle-Scribner. Decimal C.
 Regular Markings: 8/20 and 12/24 feet. Wt. per doz., 11 lbs.
Always Specify: Number, Scale and Marking
 (Same Rule with 12-inch hook, see No. 1604, page 114)



- No. 21 Pick and Hook Head Log Rule. Hook extends 3 1/2 inches. . . Per doz. \$52.80
 Figured: 48 inches. Overall length: 56 inches.
 Regular Scales: Doyle. Scribner. Doyle-Scribner. Decimal C.
 Regular Markings: 8/20 and 12/24 feet. Wt. per doz., 11 lbs.
Always Specify: Number, Scale and Marking



- No. 22 "T" Head Log Rule. (Wisconsin Pattern.) Per doz. \$49.30
 Figured: 48 inches. Overall length: 56 inches.
 Regular Scales: Doyle. Scribner. Doyle-Scribner. Decimal C.
 Regular Markings: 8/20 and 12/24 feet. Wt. per doz., 10 1/2 lbs.
Always Specify: Number, Scale and Marking
- No. 22 1/2 "T" Head Log Rule. (Wisconsin Pattern.) Per doz. \$42.30
 Figured: 36 inches. Overall length: 42 inches.
 Regular Scales: Doyle. Scribner. Doyle-Scribner. Decimal C.
 Regular Markings: 8/20 and 12/24 feet. Wt. per doz., 8 lbs.
Always Specify: Number, Scale and Marking

8/20 and 12/24 Markings. For details see foot of page 112.

NOTES: Scribner-Doyle and Decimal A or B Scale Rules also furnished; no extra charge.
 U. S. Forest Service pattern head can also be supplied. This is a flat steel head extending one-half inch from each edge of rule.
 Price: 48 inch Rule, same as Rule No. 22; 36 inch, same as No. 22 1/2.
 Rules on this page in log scales other than regular or marked for lengths other than 8/20 or 12/24, supplied at extra charge. ROSE TOOLS, INC.



Hickory Log Rules with 12-Inch Hook

Burnt Figures and Lines

These are Rules of regulation pattern and dimensions, i.e., approximately $1\frac{1}{8} \times \frac{3}{8}$ inch, with wedge handle and with extra long flat steel hook. Being figured up to 72 inches and having long hook, these Rules are often used in scaling logs of large diameter.

No.		Hook Extends	Figured	Overall	Wt. Doz.	Per Doz.
1604	Flat Hook Log Rule	12 inches	48 in.	56 in.	14 lbs.	\$58.80
1605	Flat Hook Log Rule	12 inches	60 in.	68 in.	17 lbs.	66.00
1606	Flat Hook Log Rule	12 inches	72 in.	80 in.	20 lbs.	74.80

Regular Scales on all above: Doyle, Scribner, Doyle-Scribner, Decimal C.

Regular Markings on all above: 8/20 and 12/24 feet.

Always Specify: Number, Scale and Marking

8/20 and 12/24 Markings. For details see foot of page 112.

Note: Above Rules in log scales other than regular or marked for lengths other than 8/20 or 12/24, supplied at extra charge.



Pacific Coast Square Log Rules

For Large Timber. Burnt Figures and Lines.

Rules $\frac{7}{8}$ inch square fitted with substantial steel hook extending 12 inches (Seattle pattern hook). These are extra sturdy rules. They are figured full length and regularly marked in Scribner Scale only and for even length logs from 20 to 48 feet and with one row of inches (4 tiers on each side). They are designed for scaling long logs of large diameter, and are most used on the Pacific Coast of North America.

No.		Scale	Marked	Figured	Per Doz.
1705	Seattle Hook Log Rule	Scribner	20/48	Full length, 60 inches	\$118.80
1706	Seattle Hook Log Rule	Scribner	20/48	Full length, 72 inches	128.50

Weight per doz.: No. 1705, 24 lbs.; No. 1706, 28 lbs.

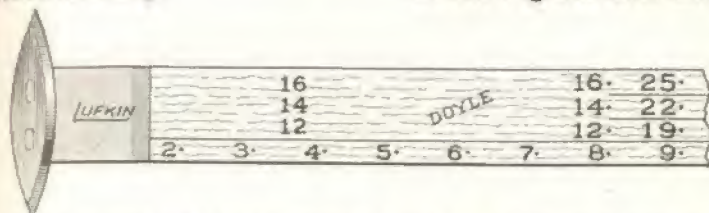
Note: For Pacific Coast Log Rules marked other than Scribner 20/48, an extra charge is made.

Flexible Hickory Log Rules

Board Rule Pattern

Select Hickory.

Burnt Figures and Lines.



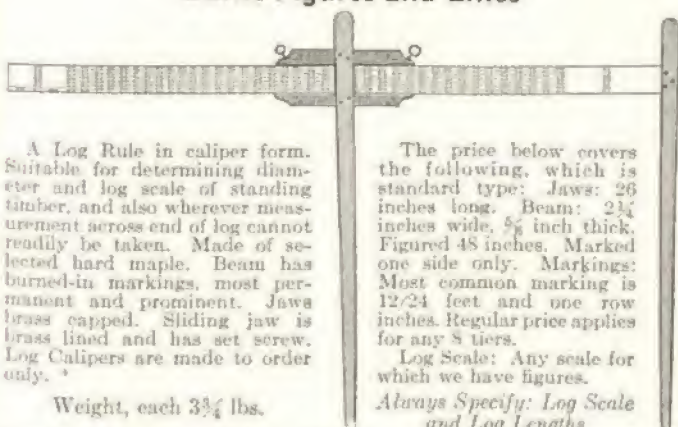
These are tapered and flexible, same as Board Rules, but carry regular log scale markings. All have board rule style 6-inch wedge handle. Nos. 29 and 30 are regularly furnished with oval head, yet can at same price be supplied with square head. Nos. 27 and 28 are without head, simply having brass cap instead. All have prominent and permanent, burned-in figures, etc. All have 4 tiers on each side and are regularly marked 12/24, i.e., one side inches and log scale for 12, 14 and 16 foot, other side for 18, 20, 22 and 24 foot logs. Flexible Log Rules are carried in stock only in 12/24 marking and only in Doyle, Scribner, Doyle-Scribner and Decimal C Log Scales.

Always Specify Log Scale in Addition to Stock Number

No.		Width	Marked	Figured	Overall	Head	Per Doz.
29	Flexible Log Rule	1 1/4 in.	12/24	36 in.	42 in.	Oval	\$74.80
30	Flexible Log Rule	1 1/4 in.	12/24	42 in.	48 in.	Oval	77.50
27	Flexible Log Rule	1 1/4 in.	12/24	36 in.	42 in.	Cap Only	68.70
28	Flexible Log Rule	1 1/4 in.	12/24	42 in.	48 in.	Cap Only	71.30

Average wt. per doz., 7 lbs.

NOTE: Flexible Log Rules in other scales, or in log lengths other than mentioned above, but having not over 8 tiers, no extra charge.

Log Caliper
Burnt Figures and Lines

A Log Rule in caliper form. Suitable for determining diameter and log scale of standing timber, and also wherever measurement across end of log cannot readily be taken. Made of selected hard maple. Beam has burned-in markings, most permanent and prominent. Jaws brass capped. Sliding jaw is brass lined and has set screw. Log Calipers are made to order only.

Weight, each 3 3/4 lbs.

The price below covers the following, which is standard type: Jaws: 26 inches long. Beam: 2 1/4 inches wide, 5/8 inch thick. Figured 48 inches. Marked one side only. Markings: Most common marking is 12/24 feet and one row inches. Regular price applies for any 8 tiers.

Log Scale: Any scale for which we have figures.

Always Specify: Log Scale and Log Lengths

No. 25 Log Caliper. (Standard type, 8 tier, figured 48 inches.)..... Each \$40.00
Most common Log Scales: Doyle. Scribner. Doyle-Scribner. Decimal C.

NOTES: Caliper marked inches only. Price same as above.
Calipers with more than 8 tiers or with beam over 48 inches long, prices on application.
Tree Tapes—See page 18.

ROSE TOOLS, INC.

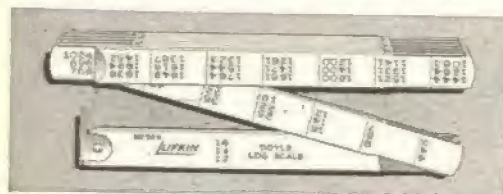
Spring Joint Log Rule

Doyle Scale.

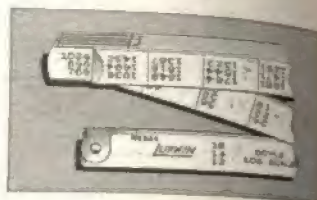
Six-inch Sections.

Folding Hook.

Suitable Both for Scaling Logs and Common Measuring



Hook Open



Hook Closed

This pocket size 4-foot folding rule is quite extensively used, because it serves these two purposes and is light weight and convenient to carry.

It bears Doyle Scale values for logs 10 to 18 feet long and up to 48 inches in diameter and, applied to the log, gives the same board foot results as standard type hickory log rules. However it is not as durable and is not offered as a substitute for such rules in steady scaling.

It is same pattern and will do the same common measuring as folding wood rules used by carpenters and others. It has concealed joints and 6-inch hardwood sections, $\frac{3}{4}$ inch wide. It is cream enameled and has brass plated mountings and patented lock joints. The folding end hook serves as log rule head and is handy also in all measuring.

Furnished Only in Doyle Log Scale

Marked outside for 10 and 18 ft. logs and, on lower edge, inches to 16ths.

Marked inside for 12, 14 and 16 foot logs.

No. 524 Spring Joint Doyle Log Rule.....Per doz. \$6.00

Packing: $\frac{1}{2}$ doz. per box. Wt. per doz., 2 lbs.

Miscellaneous Information on Board and Log Rules

Regular catalogued Board Rules give content of 1-inch (i.e., $4\frac{1}{4}$) lumber in board feet. $5\frac{1}{4}$, $6\frac{1}{4}$ and $8\frac{1}{4}$ Board Rules we can supply at an extra charge.

Board Rules marked for board lengths other than regular we can supply at an extra charge.

Left hand Board Rules can also be furnished, at an extra charge. (The only Board Rule we supply without extra charge in left hand marking is No. 8.)

In ordering special Board Rules it is necessary always to specify:

Width of Rule. Style of head, oval or square.

Length of Rule with handle; also length it is to be figured.

Board lengths rule is to be marked to measure.

(Unless otherwise specified it is always assumed special rules are to measure 1-inch lumber and to be without half-foot marks.)

Regular catalogued Log Rules give board foot contents of logs according to the scale selected.

All Scales that are regular on Log Rules are mentioned in connection with each rule listed in this catalog, and these are the only scales extensively used. Most widely used of these is the Doyle, followed by the Doyle-Scribner and the Decimal C.

The Doyle-Scribner consists of regular Doyle values for all diameters up to 29 inches, regular Scribner values for diameters 29 inches and over. (Scribner-Doyle Scale is just the reverse.) Decimal C Scale is Scribner with the units dropped, showing only the nearest tens. For example, Scribner value of 872 would appear on rule as 87.

Of other log scales there are many. We are prepared to supply rules in quite a number of them. For such there is an extra charge.

The same is true of Log Rules marked for odd and unusual log lengths.

Log Rules marked inches only, both sides, can be supplied at no extra charge.

In ordering special Log Rules it is necessary always to specify:

Stock Number (this covers style and length of rule wanted).

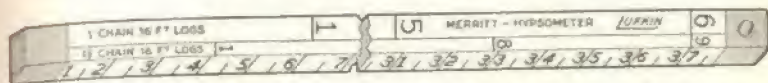
Log lengths Rule is to be marked to measure.

Log Scale.

Biltmore or Forest Cruiser Stick

(MERRITT HYPSONETER)

Gives Height and Diameter of Standing Trees
Burnt Figures and Markings



Used by the U. S. Forest Service, the Indian Service, by forestry schools, rangers and others in estimating timber tracts, etc. This Stick carries 25-inch reach Biltmore Scale for determining diameter, Merritt Hypsonometer Scale for determining height, Scribner Decimal C Scale values for 16-foot log, and, on the sloping face, 37 standard inches to halves.

All figures and markings are deeply burned, hence most permanent and prominent. Stick is of selected hard maple, well finished to resist dampness, etc. It is 38 $\frac{3}{4}$ inches long, $\frac{1}{2}$ inch thick, greatest width 1 inch. At each end there is a heavy brass ferrule. Last end has corners rounded and smoothly reamed hole for thong. Directions for use, as below, packed with each Stick.

No. 55 Biltmore or Forest Cruiser Stick. Wt. each 10 ozs. Price, each \$6.00

Directions for Use

Biltmore Scale—To Determine Diameter. User stand erect, face the tree, hold Stick horizontally in front of himself, chest high, with sloping face touching tree, 25 inches from the eye. (This distance can be regulated by knotted string.) Use one eye only and do not move head while measuring. Bring left end of Stick to point where line of sight intersects left side of tree. At point on Stick where line of sight intersects right side of tree, figure represents the diameter.

Hypsonometer—To Determine Height. User stand at one chain (66 feet), or 1 $\frac{1}{2}$ chains (99 feet) from tree. These distances can closely enough be determined by pacing. Hold Stick vertically and raise it until lower end intersects stump height. Read on proper scale the figure intersected by top of last log, which is number of 16-foot logs in the tree.

NOTES: Tree Tapes—See page 18.

Topographic Trailer Tape—See page 48.

Marking Stick for Lumber Crayons

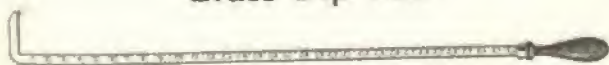


A convenient holder adapted to regular lumber crayons. Holder is of brass, nickel plated; 30-inch handle is of wood, well finished. Crayon is held firmly by means of screw cap together with slide with set screw backing it up at any length extended.

Marking Stick Complete (Crayon Holder with handle, 36 in. long) . . . Per doz. \$48.00
Crayon Holder Only (without handle) Per doz. 32.00

Weight per doz.: Stick Complete, 8 lbs. Crayon Holder, 3 lbs.

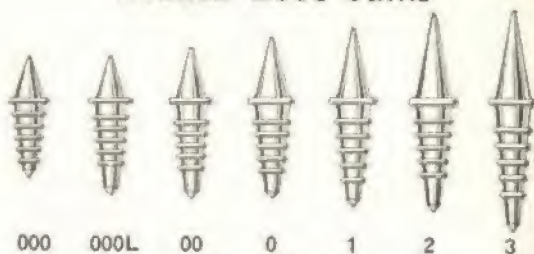
Brass Dip Rod



For measuring diameter of logs, especially when logs are lying in water. Made of hard brass, $\frac{3}{4}$ x $\frac{1}{2}$ inch, well finished. Has 1 $\frac{1}{2}$ inch hook and wood handle. Plainly marked on the two sides, 32 inches to half-inches. Overall length, 38 inches.

Brass Dip Rod. Wt. per doz., 12 lbs. ROSE TOOLS, INC. per doz. \$72.00

Beaded Boot Calks



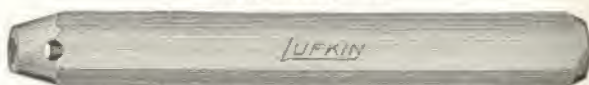
Actual Sizes

For log drivers boots. Forged from best quality crucible steel. All have point, shank, shoulder and beads well proportioned and formed so as to set and hold well. No. 000L is same as No. 000 except having longer shank.

No.		Weight, per 1,000	Price, per 1,000
000	Boot Calk.....	2 $\frac{3}{4}$ lbs.	\$8.00
000L	Boot Calk.....	3 $\frac{1}{4}$ lbs.	8.00
00	Boot Calk.....	3 $\frac{1}{2}$ lbs.	8.00
0	Boot Calk.....	4 lbs.	8.00
1	Boot Calk.....	5 $\frac{1}{8}$ lbs.	8.00
2	Boot Calk.....	5 $\frac{1}{4}$ lbs.	8.00
3	Boot Calk.....	6 $\frac{1}{4}$ lbs.	8.00

Packing: 100 per box, 1,000 per carton
(Except No. 3, which is 50 per box, 500 per carton)

Boot Calk Sets



Hexagon in shape and of high grade hardened steel. Hole tapered and reamed to fit point and shoulder of Calk. Overall length: 4 $\frac{1}{2}$ inches. Diameter: $\frac{1}{2}$ inch.

No.		Price, Per Doz.
000	Calk Set. For 000 and 000L Calks.....	\$6.00
00	Calk Set. For 00 Calk.....	6.00
0	Calk Set. For 0 Calk.....	6.00
1	Calk Set. For 1, 2, and 3 Calks.....	6.00

Combination Calk Set and Punch



Round, with square head. Made of high grade hardened steel.

No. 7 Calk Set and Punch. Length: 4 inches.... Per doz. \$7.00



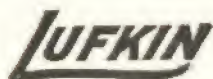
Lumber Gages

A substantial Gage for measuring thickness of lumber. Made of brass, nickel plated.

No.		For Measuring Thicknesses
00	Lumber Gage.	$\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1, 1 $\frac{1}{4}$, 1 $\frac{1}{2}$, 1 $\frac{3}{4}$ and 2 inch.....
000	Lumber Gage.	$\frac{3}{8}$, $\frac{3}{4}$, 1, 1 $\frac{1}{4}$, 1 $\frac{1}{2}$, 2 and 2 $\frac{1}{2}$ inch.....

Per Doz.
\$10.50
14.00

Section Six



MISCELLANEOUS WOOD RULES, SQUARES, ETC. FOLDING STEEL AND BRASS RULES MISCELLANEOUS STEEL AND BRASS RULES

This section embraces the following varied assortment of Rules and Measuring Devices, many of which are in common use. They are catalogued in the order here listed:

Flat Wood Bench Rules.
Manual Training Wood Rules.
Boxwood Shrink Rules.
Extension Rules (sectional).
Yard and 1 $\frac{1}{4}$ -Yard Sticks
Tailors Measuring and Curve
Sticks.
Tailors and Dressmakers Squares.
Tailors and Dressmakers Tapes.
Meter Sticks.
Shoe Size Sticks.
Freight Rules.
Barrel Gaging and Wantage Rods.

"Perfection" Glass Boards.
Glass Cutters and Glaziers Rules.
Glass Cutters "L" and "T"
Squares.

Folding Steel Rules (1 to 8 ft.).
Folding Brass Rules.
Blacksmiths Hook Rule.
Counter Rules.
Manual Training Steel Rules.
Steel Bench Rules (1 to 8 ft.).
Tinnners Steel Circumference Rules.
"Magic" Pattern Rule.

*Certain of these lines are stocked by hardware
and tool stores; all are obtainable through them.*

"Perfection" Glass Boards, Glass Cutters Rules and Squares are handled extensively also by distributors of glass and supplies for that trade.

Tailors Squares, Rules, Curve Sticks and Tailors Tapes are another of our complete lines, high grade and most widely and favorably known in the tailoring and dressmaking trades. They are stocked by the tailor trimming houses in all centers.

Some of the other items sold largely through distributors specializing to individual lines of trade are the following:

Manual Training Wood and Steel Rules. By school supply houses.
Shrink Rules. By dealers in patternmakers and foundry supplies.
Gaging and Wantage Rods. By brewers and bottlers supply houses.
Meter Sticks, Yard Sticks, etc. By technical supply houses.
Shoe Size Sticks. By distributors of shoe findings.
Tinnners and "Magic" Rules. By dealers in sheet metal workers tools.

ROSE TOOLS, INC.

Flat Wood Rules

Bench Rules for Shop, Factory and Other Uses

Popular with Cutters of Automobile and Upholstery
Fabrics, Trimmers, Saddlers, and Other Mechanics



High grade, one-piece, polished hard maple Bench or Table Rules. Made of selected stock, properly seasoned and well finished. Stamped lines and figures, clear-cut and black, permanent and easy to read. Wherever many long measurements are taken with a rule, these longer rules save much time as compared with yard sticks. Graduated both edges of both sides, with zero falling at reverse ends, and figures placed as illustrated above, these rules are easily read from either side of bench and can most quickly be brought to the work in any position.

The bound rules have brass binding entire length of both edges, securely attached. They are best for cutting or wherever rule is subject to much wear.

Marked Both Sides, Both Edges; One Side 8ths, Other Side 16ths Inch

No.	Length		Dimensions	Wt. Doz.	Per Doz.
7131	24 inch.	Brass Capped	1½ x ¾ inch	2¼ lbs.	\$ 7.60
7132	36 inch.	Brass Capped	1½ x ¾ inch	3¼ lbs.	10.40
7133	48 inch.	Brass Capped	1½ x ¾ inch	5½ lbs.	13.90
7134	60 inch.	Brass Capped	1½ x ¾ inch	6¾ lbs.	17.70
7135	72 inch.	Brass Capped	1½ x ¾ inch	8 lbs.	22.00
7131½	24 inch.	Full Brass Bound	1½ x ¾ inch	3¼ lbs.	24.00
7132½	36 inch.	Full Brass Bound	1½ x ¾ inch	5¼ lbs.	33.00
7133½	48 inch.	Full Brass Bound	1½ x ¾ inch	9 lbs.	42.00
7134½	60 inch.	Full Brass Bound	1½ x ¾ inch	10½ lbs.	54.00
7135½	72 inch.	Full Brass Bound	1½ x ¾ inch	13½ lbs.	66.00

NOTE: Glass Cutters Flat Wood Rules—See page 130.

Manual Training Bench Rules



One-piece, hardwood rules, popular in school woodworking shops. Made of selected stock, properly seasoned and well finished. Stamped lines and figures, clear-cut, black, permanent and prominent. Inches both sides numbered vertically, from top to bottom, with opposite sides reading from reverse ends. These Rules are easy to read in any position.

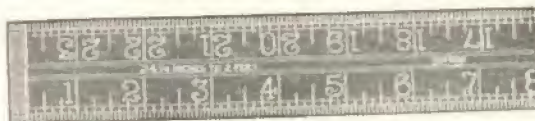
Marked: Both Edges of One Side Inches to 8ths Both Edges Other Side Inches to 16ths

No.	Length		Dimensions	Wt. Doz.	Per Doz.
34¼V	1-foot	Maple Rule. Brass Capped.	1½ x ¾ inch	1 lb.	\$5.30
34V	2-foot	Maple Rule. Brass Capped.	1½ x ¾ inch	2½ lbs.	7.20
34½V	1-foot	Boxwood Rule. Brass Capped.	1½ x ¾ inch	1 lb.	6.00

NOTES: Steel Rules for Manual Training Use—See Nos. 60 and 62, page 135.
Folding Wood Rule for School Use—See No. 703, page 106

Boxwood Shrink Rules

Two Foot. Brass Capped.



Patterns for metal castings are oversize, to allow for shrinkage in cooling. As shown by table below, this shrinkage varies with different metals. On the rules here listed shrinkage allowance is included in all measurements throughout. Example: Rule No. 8205 is $24\frac{1}{4}$ inches long, divided into 24 equal parts, each part subdivided to 8ths or 16ths.

Boxwood Shrink Rules are suitable for rough work. Machine divided Steel Shrink Rules, shown page 233, being more durable and finely graduated, are more extensively used and should always be employed on close work.

These Shrink Rules are of genuine boxwood, properly seasoned and well finished. They have clear-cut, black lines and figures, durable and easy to read. All are 2-foot rules, $1\frac{1}{2}$ inch wide, $\frac{1}{8}$ inch thick, and with ends brass capped.

Marked Both Sides, Both Edges; One Side 8ths, Other Side 16ths Shrinkage Inch

No. 8203	Shrinkage $\frac{1}{10}$ inch per foot.	Per doz.	\$22.00
No. 8205	Shrinkage $\frac{1}{8}$ inch per foot.	Per doz.	22.00
No. 8206	Shrinkage $\frac{3}{16}$ inch per foot.	Per doz.	22.00
No. 8207	Shrinkage $\frac{1}{4}$ inch per foot.	Per doz.	22.00
No. 8208	Shrinkage $\frac{5}{16}$ inch per foot.	Per doz.	22.00
No. 8209	Shrinkage $\frac{3}{8}$ inch per foot.	Per doz.	22.00

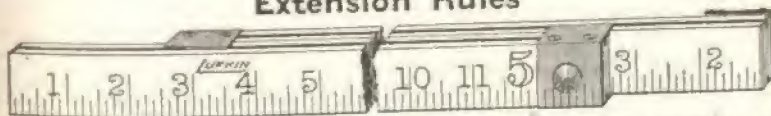
Weight per doz., $2\frac{1}{4}$ lbs.
Packing: $\frac{1}{2}$ doz. per box

Average Shrinkage of Castings

Metal	Shrinkage Per Foot	Metal	Shrinkage Per Foot
Cast Iron	$\frac{1}{8}$ inch	Aluminum	$\frac{3}{8}$ inch
Malleable Iron	$\frac{1}{8}$ inch	Copper	$\frac{3}{8}$ inch
Steel	$\frac{1}{4}$ inch	Lead	$\frac{3}{8}$ inch
Brass	$\frac{3}{8}$ inch	Zinc	$\frac{3}{8}$ inch

NOTE: Steel Shrink Rules—See page 233

Extension Rules



Two-section sliding rules used in measuring from floor to ceiling, across large openings, etc. Made of polished hard maple, with brass plated clamps. Sections 1 inch wide, $\frac{3}{4}$ inch thick, with stop at both ends, so they cannot fall apart. Rules have tension spring and set screw, securely holding the sections when closed or extended to any distance. Clear-cut, black lines and figures. Ends brass covered.

Marked Feet, Inches and 8ths, Both Sides

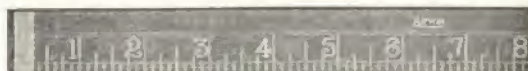
No.	Length, Extended	Length, Closed	Wt. Per Doz.	Per Doz.
7162	4 feet	2 feet	$6\frac{1}{2}$ lbs.	\$22.20
7163	6 feet	3 feet	$8\frac{1}{2}$ lbs.	25.50
7164	8 feet	4 feet	11 lbs.	28.50
7165	10 feet	5 feet	14 lbs.	35.00
7166	12 feet	6 feet	$16\frac{1}{2}$ lbs.	44.60

NOTE: Six-foot Folding Wood Rules with Extension Slide—See page 95
Inside Measuring Steel Tape-Rules—See page 84 and 85-A.

ROSE TOOLS, INC.

Yard Sticks

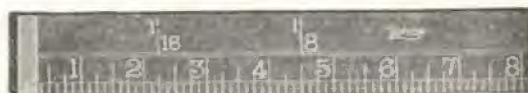
High grade Hardwood Yard Sticks, well finished in the natural wood. All have clear-cut, black lines and figures, easy to read and most permanent.



Marked Both Sides, Reading from Same End

One side lower edge inches to 8ths; other side fractions of yards

No.		Material	Ends	Dimensions	Wt. Doz.	Per Doz.
7121	Yard Stick	Maple	Plain	1 x 1/4 inch	2 3/4 lbs.	\$ 4.90
7122	Yard Stick	Maple	Brass Capped	1 x 1/4 inch	2 3/4 lbs.	6.60
7422	Yard Stick	Hickory	Brass Capped	7/8 x 3/8 inch	2 1/2 lbs.	10.50
Flexible and with Rounded Edges..						



Marked Both Sides, Reading from Reverse Ends

Lower edge inches to 8ths, upper edge fractions of yards

No.		Material	Ends	Dimensions	Wt., Doz.	Per Doz.
7116	Yard Stick	Maple	Brass Capped	1 1/4 x 3/8 inch	2 3/4 lbs.	\$7.80
7129	Yard Stick	Maple	Brass Capped	1 1/4 x 3/8 inch	4 1/2 lbs.	9.60

NOTES: Brass Counter Rules, 3-ft., For Store Use—See page 135.

Wood Bench Rules, 24 to 72-inch—See page 120.

Beveled Yard and 1 1/4 Yard Sticks Metric-English Beveled Sticks



Popular in the tailoring and dressmaking trades and other places for laying out, cutting, etc. Beveled both edges of one side, so markings come close down to the work. Lines and figures are clear-cut and black, most permanent and easy to read. All are of selected hard maple, smooth and well finished in the natural wood; width 1 1/4 inch, thickness 5/8 beveled to 1/8 inch. Hole at one end for hanging. All are marked on beveled side only. No. 7128 has take-down brass joint with set screw threading entirely through it.

Marked English Only

On both bevels, inches to 8ths; down center, fractions of yards

No. 7124	Yard Stick.	Plain Ends.....	Per doz.	\$ 7.20
No. 7125	Yard Stick.	Brass Tipped Ends.....	Per doz.	10.80
No. 7126	1 1/4 Yard Stick (45 inch).	Plain Ends.....	Per doz.	7.80
No. 7127	1 1/4 Yard Stick (45 inch).	Brass Tipped Ends.....	Per doz.	12.00
No. 7128	1 1/4 Yard Stick (45 inch).	Two-Piece, Jointed. Brass Tipped Ends.....	Per doz.	48.00

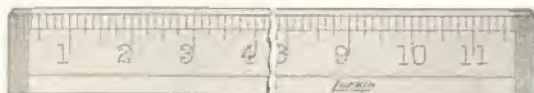
Marked Metric and English

On upper bevel, inches to 16ths; lower bevel, metric to half-centimeters

No. 7126ME	120 Centimeter Stick.	Plain Ends.....	Per doz.	\$18.00
No. 7127ME	120 Centimeter Stick.	Brass Tipped Ends.....	Per doz.	21.00

Average weight per doz., 5 lbs.

Tailors Measuring Sticks



Used in the tailoring trades and schools. Popular priced, smooth, hard maple rules, $1\frac{1}{4} \times 3\frac{1}{16}$ inch, in natural finish, with plain black markings. Marked both sides upper edge inches and 8ths; opposite sides reading from reverse ends.

Specify Length as Well as Stock Number

No. 7030	12 inch.	Tailors Stick.	Brass Capped Ends.....	Per doz.	\$4.80
No. 7030	24 inch.	Tailors Stick.	Brass Capped Ends.....	Per doz.	6.00
No. 7030	36 inch.	Tailors Stick.	Brass Capped Ends.....	Per doz.	7.60
No. 7031	12 inch.	Tailors Stick.	Plain Ends.....	Per doz.	3.30
No. 7031	24 inch.	Tailors Stick.	Plain Ends.....	Per doz.	4.80
No. 7031	36 inch.	Tailors Stick.	Plain Ends.....	Per doz.	6.40

Weights per doz., 1, 2 and 3 lbs. respectively

Note: See also Yard and $1\frac{1}{4}$ Yard Tailors Sticks, page 122.

Tailors Curve Sticks



Used in tailoring work. High grade, smooth, hard maple Sticks, well finished in the natural wood. Prominent black markings. Graduated length, 24 inches; thickness $\frac{1}{8}$ inch. Marked both sides, outer edge, inches to 8ths; opposite sides reading from reverse ends.

No. 8151	Curve Stick.	Plain Ends.....	Per doz.	\$4.80
No. 8152	Curve Stick.	Brass Capped Ends.....	Per doz.	7.20

Above Sticks are of the one curve most commonly used

We also offer No. 8152 Assorted Curve Sticks, i.e.,
sets of 12 Sticks, each of a different curve

Specify as:

Set No. 8152	Assorted Curve Sticks.....	Per Set of 12	\$9.20
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Weight per doz., $1\frac{1}{4}$ lbs.

Tailors and Dressmakers Squares

These Squares are of genuine boxwood or of selected hard maple. They are of the light weight preferred by tailors, yet are durable, and are smoothly surfaced and finely finished. All have brass corner plate and corner brace, and have markings and figures stamped and filled in black, most permanent and easy to read. All Squares on this page, except No. **8241**, bear on one side tailors measurements (regular or reverse, as described below); other side inches to 8ths. (The inches are reduced on Nos. **8236** and **8237**.)

Regular Graduation:

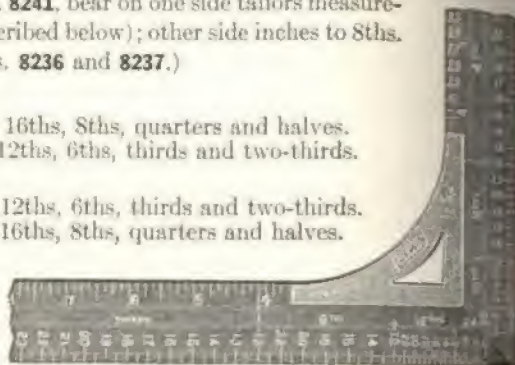
Short arm in 32nds, 16ths, 8ths, quarters and halves.

Long arm in 24ths, 12ths, 6ths, thirds and two-thirds.

Reverse Graduation:

Short arm in 24ths, 12ths, 6ths, thirds and two-thirds.

Long arm in 32nds, 16ths, 8ths, quarters and halves.



No.	Size	Material	Graduation	Ends	Wt. Doz.	Per Doz.
8130	14x24 inch	Maple	Regular	Plain	2 $\frac{1}{4}$ lbs.	\$21.00
8132	14x24 inch	Maple	Regular	Brass Capped	2 $\frac{1}{4}$ lbs.	24.00
8134	14x24 inch	Maple	Reverse	Plain	2 $\frac{1}{4}$ lbs.	24.00
8135	14x24 inch	Maple	Reverse	Brass Capped	2 $\frac{1}{4}$ lbs.	26.40
8231	12x24 inch	Boxwood	Regular	Brass Capped	2 $\frac{1}{2}$ lbs.	25.20
8232	14x24 inch	Boxwood	Regular	Brass Capped	2 $\frac{1}{2}$ lbs.	26.40
8233	12x24 inch	Boxwood	Reverse	Brass Capped	2 $\frac{1}{2}$ lbs.	27.60
8235	14x24 inch	Boxwood	Reverse	Brass Capped	2 $\frac{1}{2}$ lbs.	28.80
* 8236	6x12 inch	Boxwood	Regular	Brass Capped	1 lb.	26.40
** 8237	4x 6 inch	Boxwood	Regular	Brass Capped	$\frac{1}{2}$ lb.	26.40
*** 8238	14x24 inch	Boxwood	Regular	Brass Capped	6 lbs.	54.00

* No. 8236 is a Half Size Square. All graduations reduced to half size, making capacity of this square 12x24 inches.

** No. 8237 is a Quarter Size Square. All graduations reduced to quarter size, making capacity of this square 16x24 inches.

*** No. 8238 is a Jointed or Take-down Square. It is of extra weight throughout, with corner full brass bound both sides, and with a sturdy and reliable snap joint.

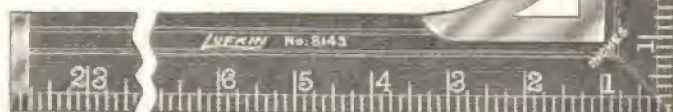
No. 8241 Shoulder Square. 6x14 inch. Boxwood. Plain Ends. . . . Per doz. \$54.00

Has stationary and sliding arm, both of boxwood. Has flexible brass strip and tape attachment. All ends are rounded. Sliding arm has tension spring. Blade graduated one side 14 inches to 8ths; brass strip, 14 inches to quarters. Both arms graduated other side 6 inches to 8ths. Stationary arm is "T" shape, extending also 4 inches beyond lower edge of blade. No. **8241** is sometimes known as the "Mitchell" Square. It is regularly made in right shoulder pattern. It can be furnished in left shoulder, i.e., graduated other side, at same price. Weight per dozen, 3 $\frac{1}{4}$ lbs.

Tailors Measuring Squares

These Squares carry standard linear measurements only, (not tailors reverse and regular divisional measurements)

These are Squares of the standard, light weight type preferred by tailors, i.e., except in graduation, are identical with No. 8130 Series Squares shown page 124. They are of selected hardwood, durable, smoothly surfaced and nicely finished. All have brass corner plate and corner brace. All have markings stamped and filled in black, most permanent and easy to read.



Marked English Linear Measure Only, Both Sides

No.	Size	Material	Graduation	Ends	Wt. Doz.	Per Doz.
8142	14x24 inch	Maple	Inches to 8ths	Plain	2 1/4 lbs.	\$19.20
8143	14x24 inch	Maple	Inches to 8ths	Brass Capped	2 1/4 lbs.	21.60
8246	6x10 inch	Boxwood	Inches to 16ths	Plain	3/4 lb.	14.40

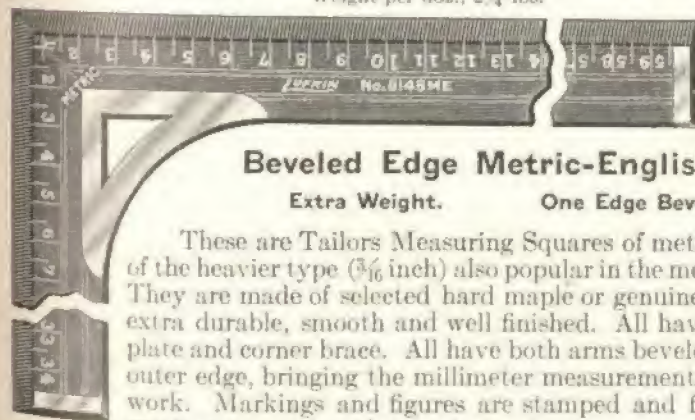
An Arm Square. Has tape attachment.

Marked English and Metric Linear Measure Only

Brace side, inches to 8ths; opposite side, metric to millimeters

No. 8142EM	14x24 inch.	Maple.	Plain Ends.	Per doz.	\$21.60
No. 8143EM	14x24 inch.	Maple.	Brass Capped Ends.	Per doz.	24.00

Weight per doz., 2 1/4 lbs.



Beveled Edge Metric-English Squares

Extra Weight.

One Edge Beveled.

These are Tailors Measuring Squares of metric length and of the heavier type (3 1/8 inch) also popular in the metric countries. They are made of selected hard maple or genuine boxwood, are extra durable, smooth and well finished. All have brass corner plate and corner brace. All have both arms beveled on one side, outer edge, bringing the millimeter measurement closest to the work. Markings and figures are stamped and filled in black, most permanent and easy to read.

Marked One Edge of Both Sides;

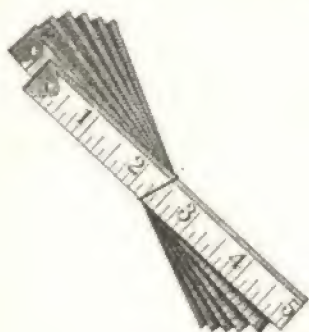
On Bevel to Millimeters, Other Side Inches to 8ths

No.	Size	Material	Ends	Wt. Doz.	Per Doz.
8147ME	35x60 cm.	Maple	Plain	3 1/4 lbs.	\$25.20
8148ME	35x60 cm.	Maple	Brass Capped	3 1/4 lbs.	27.60
8248ME	35x60 cm.	Boxwood	Brass Capped	3 1/4 lbs.	34.80

Lighter weight EM Squares, not beveled, see Nos. 8142EM and 8143EM above

NOTE: Tailors Tapes—See page 126.

ROSE TOOLS, INC.



Tailors or Dressmakers Tapes

These tapes are all made of double thickness sateen, with lock-stitched edge, and metal-tipped ends. All have clear, black markings on both sides; are carefully folded, stapled and boxed. Numbers are placed vertically on all $\frac{1}{16}$ inch tapes listed below, horizontally on those $\frac{3}{16}$ inch wide.

Tapes of Series **671-A** and **691-A** have durable crotch piece or tab, of hard, smooth press board, nicely formed as shown above. By means of glove or snap fastener this piece is quickly and securely attached. It is also readily detached, making the tape line suitable for all other common uses.

TAILORS TAPES WITHOUT CROTCH PIECE OR ATTACHMENT Marked Inches and 8ths, Both Sides

Opposite Sides Measuring from Reverse Ends	Both Sides Measuring from Same End	Grade	Width	Length	Price, Per Gross
No. 471	No. 671	Common	$\frac{7}{16}$ inch	60 inch	\$ 8.50
No. 472	No. 672	Medium	$\frac{7}{16}$ inch	60 inch	10.30
No. 473	No. 673	Best	$\frac{7}{16}$ inch	60 inch	14.60
No. 491	No. 691	Common	$\frac{9}{16}$ inch	60 inch	9.70
No. 492	No. 692	Medium	$\frac{9}{16}$ inch	60 inch	12.10
No. 493	No. 693	Best	$\frac{9}{16}$ inch	60 inch	17.00

Average weight per gross, $4\frac{1}{2}$ lbs.

TAILORS TAPES WITH DETACHABLE CROTCH PIECE Marked Inches and 8ths, Both Sides Both Sides Measure from Same End

Number	Grade	Width	Length	Price, Per Gross
671-A	Common	$\frac{7}{16}$ inch	60 inch	\$14.00
672-A	Medium	$\frac{7}{16}$ inch	60 inch	15.80
673-A	Best	$\frac{7}{16}$ inch	60 inch	20.10
691-A	Common	$\frac{9}{16}$ inch	60 inch	15.20
692-A	Medium	$\frac{9}{16}$ inch	60 inch	17.60
693-A	Best	$\frac{9}{16}$ inch	60 inch	22.50

Average weight per gross, 7 lbs. Packing: 1 dozen in a box, 1 gross in a carton

NOTE: Advertisement printed on crotch piece at small extra charge, lots of 10 gross or more.

Metric and English Tailors Tapes

At prices same as above, the tapes on this page can be supplied in 60 inch length marked Metric and English (specify by adding "EM" to stock numbers); also in 11 meter length marked metric only both sides (known as "MM"). On all such the first decimeter is subdivided to mm., balance to $\frac{1}{2}$ cm.; the inches to 8ths. All measure both sides from same end; all numbering is vertical.

NOTE: Woven Pocket Tapes in Cases—See pages 76 and 77.

Meter Sticks



High grade, hard maple sticks, well finished in the natural wood. Length: 1 meter (39.37 inches). Width: 25 millimeters (1 inch). Thickness: 8 millimeters ($\frac{5}{16}$ inch). Lines and figures black, easy to read and most permanent.

Marked Metric and English. (Opposite Sides Reading from Same End.)

One side, both edges, to millimeters; other side, upper edge only, inches to 8ths

No. 7111ME Meter Stick. Plain Ends.....Per doz. \$ 8.40

No. 7112ME Meter Stick. Brass Capped Ends.....Per doz. 10.10

Marked Metric Only. (Opposite Sides Reading from Reverse Ends.)

Lower edge, both sides, to millimeters

No. 7111MM Meter Stick. Plain Ends.....Per doz. \$ 8.40

No. 7112MM Meter Stick. Brass Capped Ends.....Per doz. 10.10

Weight per doz., 4 lbs.

Notes: Beveled Edge Sticks Marked Metric and English—See page 122.

One Meter, One-Piece Steel Rules—See page 232.

Shoe Size Sticks



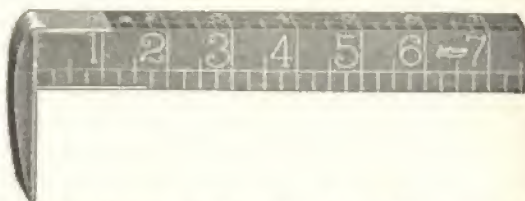
Used in shoe stores, etc., for determining shoe sizes. These polished hardwood sticks have one stationary and one sliding jaw. They carry on inside face the standard scale of shoe sizes and half sizes; on back 12 inches to 8ths. Lines and figures are clear-cut and black.

Size Stick No. 8120 is $\frac{3}{4}$ x $\frac{5}{16}$ x $15\frac{1}{2}$ inches. No. 8221 is $1\frac{1}{16}$ x $\frac{5}{16}$ x 16 inches. No. 8223 is $\frac{3}{4}$ x $\frac{1}{4}$ inch but both beam and jaws fold, and when folded stick is 9 inches long and greatest thickness $\frac{3}{4}$ inch, handy to carry in shoe salesmans pocket.

No. 8120	Shoe Size Stick. Maple, with steel mountings.....	Per doz.	\$ 9.30
No. 8221	Shoe Size Stick. Boxwood, with brass mountings.....	Per doz.	20.40
No. 8223	Shoe Size Stick. Boxwood, folding, brass mountings.....	Per doz.	39.60

ROSE TOOLS, INC.

Freight Rules



Used for measuring boxes, crates, etc., at warehouses and docks, and for similar work in packing and shipping departments. Rule and hook are both sturdy. Rule is of polished hard maple, 1 x $\frac{3}{8}$ inch, with clear-cut markings and large figures in black. Hook is of heavy cast brass, extends 1 $\frac{1}{8}$ inches from edge of rule and is most securely attached. Rule has handle end rounded and with hole for hanging up.

Marked Feet, Inches and Quarters, on Two Sides and Top Edge

No. 7154	4 foot.	Freight Rule.	Wt. doz. 12 lbs.	Per doz.	\$42.00
No. 7155	5 foot.	Freight Rule.	Wt. doz. 14 lbs.	Per doz.	48.00
No. 7156	6 foot.	Freight Rule.	Wt. doz. 16 lbs.	Per doz.	60.00

Barrel Gaging Rod



For determining capacity of standard type barrels (not drums). Rod of polished hard maple, $\frac{3}{8}$ inch square, with zero end pointed and brass covered. In addition to gallon measurement, rod is marked on two sides in 10ths of inches.

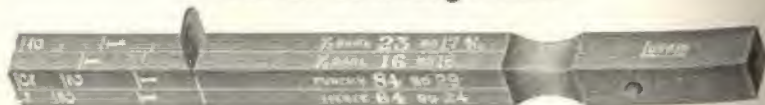
No. 7181 Gaging Rod. Capacity: 120 gallons. Length: 3 ft. Per doz. \$20.00

DIRECTIONS FOR DETERMINING BARREL CAPACITY

Insert Gaging Rod through bung hole in side of barrel diagonally over to the head or end. Do this in both directions, right and left. Read the Rod at the center of bung for both insertions, and take the average of the two readings.

Example: If one reading is 40, and the other 44, 42 gallons is the capacity, i.e., contents when full.

Barrel Wantage Rod



For determining wantage or outage of standard type barrels. Rod of polished hard maple, $\frac{3}{8}$ inch square, 18 inches long. This 12-line rod is suitable for barrels of twelve standard sizes.

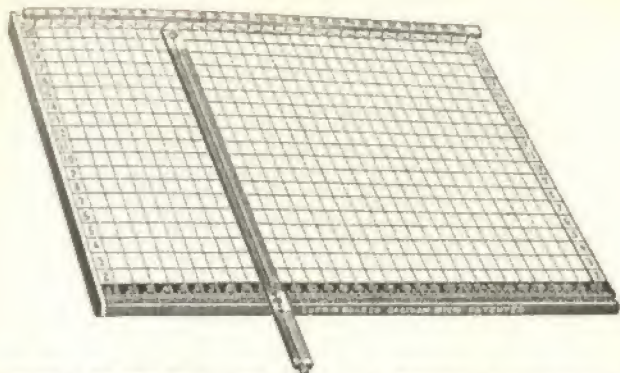
No. 7188 Wantage Rod. Per doz. \$42.00

DIRECTIONS FOR DETERMINING WANTAGE

Barrel should lie level on its side. Insert Wantage Rod slowly and straight into the barrel through the bung hole at its side until brass angle of Rod rests under and against the staves. Using the column of figures that represents the capacity and bung diameter of the barrel, read the line of the liquid.

Example: If Rod is wet as far as 10, shortage is 10 gallons.

NOTE: Rods on this page can be furnished in Imperial gallon measure.



(Upper side of straight edge)



(Lower side of straight edge)

"Perfection" Glass Boards

**A Device Indispensable to All Dealers in Glass
Saves Its Cost in a Short Time**

The "Perfection" Glass Board is the modern device for cutting window glass accurately and uniformly to size.

This Board is of narrow strips of well seasoned lumber, glued and dovetail cleated. It is ruled in inches both ways and well finished. By means of guides at left and upper edges, glass is quickly brought into position. Embedded steel rule at front edge, graduated inches and 8ths, is used in setting straight edge. Top and left edges of board are numbered in inches.

The Straight Edge is unique, simple and positive in operation. Turning knob at front end moves it straight forward or backward to any inch or fraction inch, indicated on the steel rule. Turning set screw locks it firmly at any location. This insures accurate, straight cuts, as well as uniformity when more than one light of a size is to be cut.

"Perfection" Glass Boards

Complete with Straight Edge

Size in Inches	Wt. Each, Packed	Price, Each
24 x 36 Glass Board	36 lbs.	\$30.00
30 x 48 Glass Board	58 lbs.	38.00
36 x 54 Glass Board	72 lbs.	44.00
42 x 60 Glass Board	100 lbs.	50.00
48 x 72 Glass Board	136 lbs.	64.00

Note: "Perfection" Glass Boards we stock at Saginaw, Michigan, only, and ship from that point only; F.O.B. Saginaw.

Straight Edges Only for "Perfection" Glass Boards

Below we list Straight Edges only, that being the part of a Glass Board receiving most wear. These are Straight Edges complete with fittings.

Straight Edge for Board size 24 x 36	Price, each	\$7.20
Straight Edge for Board size 30 x 48	Price, each	7.40
Straight Edge for Board size 36 x 54	Price, each	7.60
Straight Edge for Board size 42 x 60	Price, each	7.80
Straight Edge for Board size 48 x 72	Price, each	8.00

ROSE TOOLS, INC.

Glass Cutters Rules With Brass Lip



These are the rules most extensively used in glass factories, warehouses, and by the glass trade. Made of selected hard maple, thoroughly seasoned and well finished. Of dimensions that long experience has proven most suitable, sturdy, yet not too heavy or cumbersome. Fitted one end with improved type, substantial, extruded brass lip or flange extending $\frac{3}{8}$ inch from flat face of rule. Lip is securely attached by rivets through both side plates. Other end of rule is brass capped. All markings and figures are deeply cut, extra heavy and black, most permanent and easy to read. On upper face the zero point falls at inside of lip; on lower face, at opposite end of rule.

Marked Both Sides, Both Edges, Consecutive Inches to 8ths

No.	Length	Dimensions	Wt. Each	Price, Each
7141	36 inch	2 x $\frac{5}{8}$ inch	$\frac{3}{4}$ lb.	\$ 3.70
7142	48 inch	2 x $\frac{5}{8}$ inch	1 lb.	4.30
7143	60 inch	2 $\frac{1}{2}$ x $\frac{3}{8}$ inch	1 $\frac{1}{4}$ lbs.	5.20
7144	72 inch	2 $\frac{1}{2}$ x $\frac{3}{8}$ inch	1 $\frac{3}{4}$ lbs.	6.20
7145	84 inch	3 x $\frac{3}{8}$ inch	2 lbs.	7.50
7146	96 inch	3 x $\frac{3}{8}$ inch	2 $\frac{1}{4}$ lbs.	9.10
7147	108 inch	3 x $\frac{3}{8}$ inch	2 $\frac{1}{2}$ lbs.	11.00
7148	120 inch	3 x $\frac{3}{8}$ inch	2 $\frac{3}{4}$ lbs.	13.30
7149	144 inch	3 x $\frac{3}{8}$ inch	3 $\frac{1}{4}$ lbs.	18.20

Glaziers Rules Without Lip



Glaziers Flat Rules of selected hard maple, with both ends brass capped. Markings and figures in black, extra heavy and deeply cut, most permanent and easy to read. Opposite sides measure from reverse ends.

Marked Both Sides

One Side, Both Edges, Consecutive Inches to 8ths;

One Side, Lower Edge Consecutive Inches to 8ths, Upper Edge Feet and Quarter Feet

No.	Length	Dimensions	Wt. Each	Price, Each
7136	36 inch	2 x $\frac{1}{4}$ inch	$\frac{1}{2}$ lb.	\$1.10
7137	48 inch	2 x $\frac{1}{4}$ inch	$\frac{3}{4}$ lb.	1.50
7138	60 inch	2 $\frac{1}{2}$ x $\frac{1}{4}$ inch	$\frac{3}{4}$ lb.	2.20
7139	72 inch	2 $\frac{1}{2}$ x $\frac{1}{4}$ inch	1 lb.	3.00
7140	84 inch	3 x $\frac{1}{4}$ inch	1 lb.	4.30

NOTES: Folding Extension Rules for Measuring Openings—See page 93.
Steel Tape-Rule for Measuring Openings—See page 84.

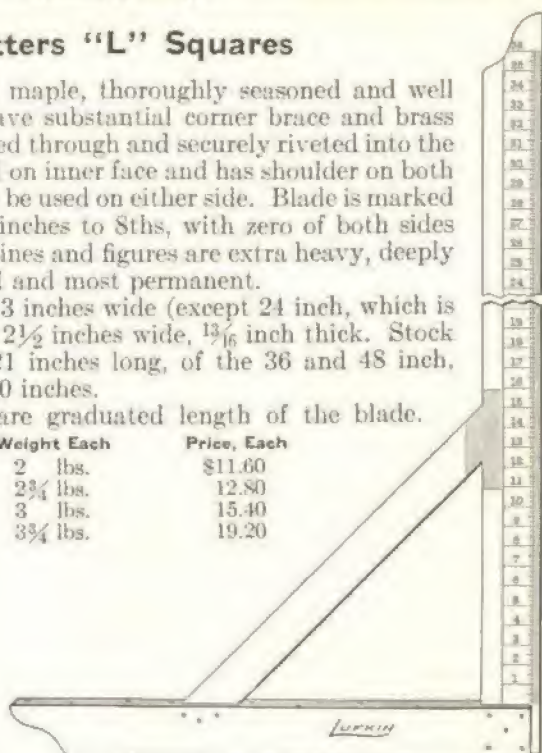
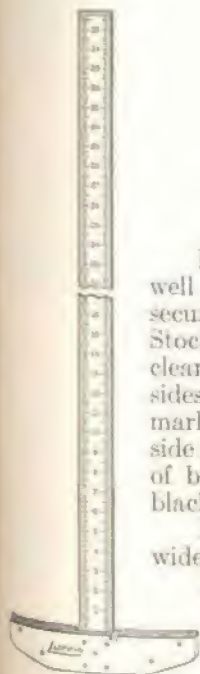
Glass Cutters "L" Squares

Made of selected hard maple, thoroughly seasoned and well finished. These Squares have substantial corner brace and brass side plates. Blade is mortised through and securely riveted into the stock. Stock is brass bound on inner face and has shoulder on both sides of blade, so square can be used on either side. Blade is marked both sides, on outer edge, inches to 8ths, with zero of both sides falling at inside of stock. Lines and figures are extra heavy, deeply cut and black, easy to read and most permanent.

Blade is $\frac{1}{4}$ inch thick, 3 inches wide (except 24 inch, which is $2\frac{1}{2}$ inches wide). Stock is $2\frac{1}{2}$ inches wide, $1\frac{3}{16}$ inch thick. Stock of the 24 inch Square is 21 inches long, of the 36 and 48 inch, 27 inches, of the 60 inch, 30 inches.

Lengths given below are graduated length of the blade.

Length		Weight Each	Price, Each
24 inch.	"L" Square	2 lbs.	\$11.60
36 inch.	"L" Square	$2\frac{3}{4}$ lbs.	12.80
48 inch.	"L" Square	3 lbs.	15.40
60 inch.	"L" Square	$3\frac{3}{4}$ lbs.	19.20



Glass Cutters "T" Squares

Made of selected hard maple, thoroughly seasoned and well finished. One end of blade is mortised through and securely riveted into the stock; other end brass capped. Stock is brass bound on inner face, and notched, giving clearance for glass cutting wheel. It has shoulder on both sides of blade so square can be used on either side. Blade is marked both edges of both sides, inches to 8ths, zero of one side falling at inside of stock, zero of other side at other end of blade. Lines and figures are deeply cut, extra heavy and black, most permanent and easy to read.

Blade is 2 inches wide, $\frac{5}{16}$ inch thick. Stock is 2 inches wide, $\frac{15}{16}$ inch thick, and 14 inches long on both sizes.

Lengths given below are length of blade under the stock.

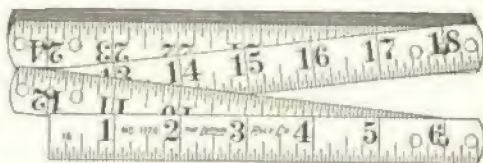
Length		Weight Each	Price, Each
36 inch.	"T" Square	$1\frac{1}{2}$ lbs.	\$ 7.20
48 inch.	"T" Square	$1\frac{3}{4}$ lbs.	10.60

Listed above are the popular lengths of "L" and "T" Squares, and the only ones we regularly stock. The demand for other lengths is very limited, and as they are made to order, their cost is considerably higher.

NOTE: Glass Cutting Boards—See page 129.

ROSE TOOLS, INC.

Mechanics Folding Steel Rules



$\frac{3}{4}$ Inch Wide.

Six-inch Folds.

Lock Joints.

Longest and Most Sturdy of Folding Steel Rules

Of all Long Folding Steel Rules these best maintain their accuracy and withstand hard use. They are popular in steel mills, machine shops and other places where lighter weight metal rules and wood rules are often broken. (On very precise work a one-piece steel scale should be used.)

These rules are of tempered steel, $\frac{3}{4}$ inch wide, $\frac{1}{16}$ inch thick. Each joint has a substantial rivet headed over washers and two durable stops or snap sockets, holding the sections rigidly in alignment both when rule is open and closed. The lines and figures, being deeply sunken and black, are in good contrast, easy to read and permanent. Inches are numbered consecutively. All except Nos. 1174EM and 1173ME have opposite sides reading from reverse ends.

Marked Both Sides, Lower Edge, Inches to 16ths

No. 1172	2 foot.	6-inch sections.	Wt. doz. 2 $\frac{1}{4}$ lbs.	Price, each	\$1.30
No. 1173	3 foot.	6-inch sections.	Wt. doz. 3 $\frac{1}{4}$ lbs.	Price, each	2.00
No. 1174	4 foot.	6-inch sections.	Wt. doz. 4 $\frac{1}{2}$ lbs.	Price, each	2.60
No. 1175	5 foot.	6-inch sections.	Wt. doz. 5 $\frac{1}{2}$ lbs.	Price, each	3.30
No. 1176	6 foot.	6-inch sections.	Wt. doz. 6 $\frac{1}{2}$ lbs.	Price, each	3.90
No. 1178	8 foot.	6-inch sections.	Wt. doz. 8 $\frac{1}{2}$ lbs.	Price, each	5.40

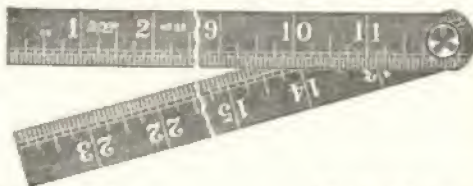
Marked English and Metric:

One Side Inches to 16ths, Other Side to Millimeters

No. 1173ME	1 meter.	6 fold.	Wt. doz. 3 $\frac{1}{4}$ lbs.	Price, each	\$2.30
No. 1174EM	4 foot.	6-inch sections.	Wt. doz. 4 $\frac{1}{2}$ lbs.	Price, each	2.70

Packing: 2 ft., 3 ft. and 1 meter rules, twelve in a box; all others, six in a box

Folding Steel Two-Foot Rules



$\frac{3}{4}$ Inch Wide.

12-inch Sections.

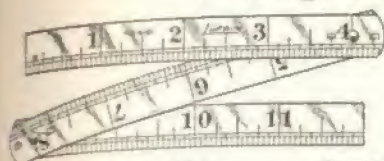
Sturdy, two-foot, two-section, tempered steel rules for blacksmiths, shop work, etc. Three-quarter inch wide, about $\frac{1}{16}$ inch thick. Lines and figures deeply sunken and black, easy to read, permanent and prominent. Opposite sides read from reverse ends. Stannely riveted joints with large side washers. All except No. 80 have stop joint, bringing the rule to a stop when opened straight. No. 86 is suitable not only for regular measuring, but gives at a direct reading the circumference opposite the diameter.

No.	Length	Markings	Price, Each
80	2 foot	One side 8ths, other 16ths inch. Plain Joint.	\$1.00
85	2 foot	One side 8ths, other 16ths inch. Stop Joint.	1.30
86	2 foot	One side inches to 16ths; other side, upper edge, inches to 8ths, lower edge 75 circumference inches to 8ths. Stop Joint.	1.50

Weight per doz.: 2 lbs. Packing: Twelve in a box

NOTES: Aluminum Rules—See pages 98 and 99. Blacksmiths Brass Rules—See page 134.

Folding Steel Pocket Rules

 $\frac{1}{2}$ Inch Wide.

4 and 6-inch Folds.

Lock Joints.

Semi-flexible, Medium Weight Rules, Machine Divided

Rules fine enough for anyone to carry. Furnished with or without metal-bound leather case. These rules are of tempered steel, $\frac{1}{2}$ inch wide, and being approximately .020 inch thick, will form to a circle. Machine divided, sunken graduation lines and figures in black, easy to read. For a folding rule these afford a close degree of accuracy. They have stop or snap joints, holding sections properly in alignment either open or closed. Inches are numbered consecutively. All except No. 4141EM have opposite sides reading from reverse ends.

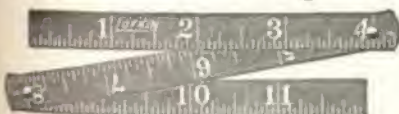
Marked Lower Edge of Both Sides: One Side 8ths, Other Side 16ths Inch

Number	Length		Wt. Doz.	Without Case Price, Each	With Case Price, Each
4141	1 foot	4-inch sections	$\frac{1}{2}$ lb.	\$0.90	\$1.00
4142	2 foot	4-inch sections	1 lb.	1.50	1.60
4143	3 foot	4-inch sections	$1\frac{1}{2}$ lbs.	2.30	2.40
4144	4 foot	4-inch sections	$2\frac{1}{4}$ lbs.	3.00	3.10
4642	2 foot	6-inch sections	1 lb.	1.40	1.55
4643	3 foot	6-inch sections	$1\frac{1}{2}$ lbs.	2.20	2.35
4644	4 foot	6-inch sections	$2\frac{1}{4}$ lbs.	3.00	3.15
* 4141EM	1 foot	4-inch sections	$\frac{1}{2}$ lb.	1.00	1.10

★Marked one side inches to 16ths, other side millimeters.

Packing: Nos. 4141 and 4642, twelve in a box; all others, six in a box

Folding Steel Pocket Rules

 $\frac{3}{8}$ Inch Wide, Flexible.

"Nubian" Finish.

Lock Joints.

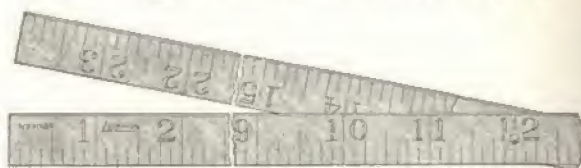
While of medium price, these rules are not flimsy. They are of tempered steel, $\frac{3}{8}$ inch wide, approximately .020 inch thick, and will form to a circle. Against the "Nubian" (black) background, the raised lines and figures, in the natural steel, are easy to read. Stop or snap joints hold the sections in alignment either open or closed. Rules furnished with or without metal-bound leather case. Nos. 1141, 1142 and 1143 have opposite sides reading from reverse ends. All have 4-inch sections except No. 1163ME which has 20-centimeter sections.

Number	Length	Markings	Weight Doz.	Without Case Price, Each	With Case Price, Each
1141	1 foot	Inches to 16ths, both sides...	$\frac{1}{2}$ lb.	\$0.60	\$0.70
1142	2 foot	Inches to 16ths, both sides...	$\frac{3}{4}$ lb.	1.10	1.20
1143	3 foot	Inches to 16ths, both sides...	1 lb.	1.70	1.80
1141D	1 foot	Inches to 16ths, one side; 10ths and 100ths foot, other side.	$\frac{3}{4}$ lb.	.60	.70
1143ME	1 meter	Millimeters one side; inches to 16ths, other side.	$1\frac{1}{4}$ lbs.	1.70	1.80
1163ME	1 meter	Millimeters one side; inches to 16ths, other side..	$1\frac{1}{4}$ lbs.	1.70	1.80

Packing: Twelve in a box

NOTE: Unless cases are specified, we ship rules with ROSE TOOLS, INC.

Folding Brass Two-Foot Rules



Rust Proof.

12-inch Sections.

Stop Joints.

These rust-proof rules of hard brass are popular with blacksmiths and other metal workers. No. 1085 is $\frac{1}{16} \times \frac{9}{16}$ inch. No. 1086 is slightly thinner and $\frac{3}{4}$ inch wide. No. 1086 is suitable not only for regular measuring, but gives at a direct reading the circumference opposite the diameter.

Both have stop joint, and sunken, black lines and figures, permanent and in good contrast to the natural brass rule surface. Opposite sides measure from reverse ends.

No.	Length	Sections	Markings	Price Each
1085	2 ft.	12 inch	Both sides, lower edge; one side 8ths, other 16ths inch.	\$1.20
1086	2 ft.	12 inch	One side, lower edge 16ths inch; other side upper edge inches to 8ths, lower edge 75 circumference inches to 8ths.	2.00

Weight per doz., 23½ lbs. Packing: Twelve in a box

NOTE: Blacksmiths Steel Rules—See page 132.

Blacksmiths Brass Hook and Handle Rule



A sturdy, 12 inch, one-piece rule and hook of hard brass, $1\frac{1}{16} \times \frac{1}{10}$ inch, for blacksmiths and others working on hot metals. Often used for measuring through wheel hubs, etc. Solid hook projects $\frac{1}{2}$ inch from lower edge; other end of rule has formed handle and hole for hanging up. Overall length $16\frac{3}{4}$ inches. Marked both sides 12 inches to 16ths. One side measures from inside of hook, other side from end of rule. Sunken black lines and figures, permanent and prominent.

No. 1063 12 inch. Blacksmiths Brass Hook Rule Price, each \$3.00

Weight each, $\frac{1}{4}$ lb.



“Universal” Try and Miter Squares For Woodworkers

With Level.

Without Level.

“Universal” Squares consist of a graduated steel blade and metal square head. They are suitable for the uses of carpenters and other woodworkers. They combine in one tool the try and miter squares with blade adjustable in length, the level and plumb, marking gage, height and depth gage, and separate rule. While popular priced they are durable and well designed.

The blade (or rule) is clearly marked on both edges of both sides. The enameled head has square and miter faces and it slides in the groove of the blade, and, by means of a convenient thumb nut, can be securely clamped at any point along the blade. Thus the length of the blade extension outward from either the square or the miter face of the head is adjustable. The head is removable so blade can be used separately.

“Universal” Squares are furnished either with or without level glass.

Always Specify Size as Well as Stock Number.

Marked English Measure Only

Both Sides, one edge 8ths, other edge 16ths inch

Number	Size	Price, Each
65L	9 inch. With Level.....	\$1.35
65L	12 inch. With Level.....	1.50
65	9 inch. Without Level.....	1.10
65	12 inch. Without Level.....	1.25

Marked Metric and English

One Side millimeters and 16ths of inches;
Other Side millimeters and 8ths of inches

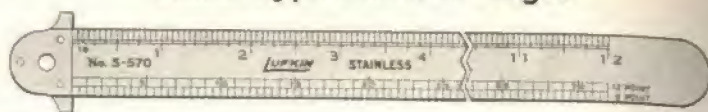
Number	Size	Price, Each
65L-ME	20 cm. With Level.....	\$1.35
65L-ME	30 cm. With Level.....	1.50
65ME	20 cm. Without Level.....	1.10
65ME	30 cm. Without Level.....	1.25

Packing: One in a box

Weight each: 9 inch (20 cm.), 12 ozs.; 12 inch (30 cm.), 15 ozs.

ROSE TOOLS, INC.

Hook Type Rules or Gages



All of these are Precision Gages, machine divided. They are $\frac{3}{4} \times \frac{1}{2}$ inch. The fine, sunken lines and the figures, all in black, are most legible and permanent. Point measurements are to the true type foundry standard. 72 points equal .996 standard inch. Zero of all measurements falls at inside of substantial "T" head or hook.

Rules S-570 and S-575 are of tempered Genuine Stainless Steel, rust-proof and non-corrosive, a feature especially valuable to printers. Nos. 571 and 572 are of highest grade tempered rule steel.

Rule No. S-575 is ideal for linotype operators and all who prefer a pocket size. It carries six different measurements and has a capacity of 42 picas. The case, (optional with this Rule), is of genuine leather, metal-bound. It has pocket clip, (like a fountain pen), so securely holds the Rule in vest or shirt pocket, always instantly available for use, and preventing loss of Rule and injury to pocket.

No. S-570 12-inch Hook Type Rule, All Stainless. Price, each \$2.30
Graduations: One side, upper edge 12 inches to 16ths, lower edge 6 and 12-point up to 144 nonpareil lines, i.e., 72 picas; other side, one edge 8 and 10-point, other edge 168 advertising agate lines.

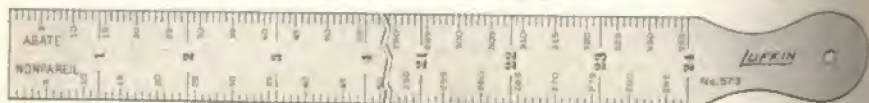
No. S-575 7-inch Hook Rule, All Stainless. Pocket Size.
Without Case. Each \$1.70 With Case. Each \$2.10
(Supplied with case unless specified without).

Graduations: One side, upper edge 7 inches to 16ths, lower edge 6 and 12-point up to 84 nonpareil and 42 pica lines; other side, one edge 8 and 10-point, other edge 95 agate lines.

No. 571 12-inch Hook Type Rule. Price, each \$1.50
Graduations: Same as the 16ths, 6 and 12-point side of No. S-570. Other side blank.

No. 572 12-inch Hook Type Rule. Price, each \$1.70
Graduations: One side, right hand edge 12 inches to 16ths, left hand edge 168 agate lines; other side, upper edge 8 and 10-point, lower edge 6 and 12-point up to 144 nonpareil lines, i.e., 72 picas.

Newspaper and Type Rule

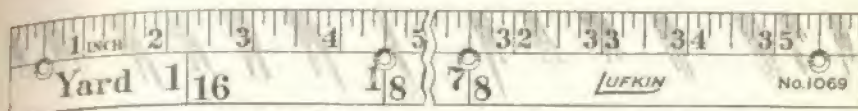


This is the American Newspaper Publishers Association Rule. It is a handy and accurate, machine divided, tempered Steel Rule, popular with newspaper and advertising men and in general print shop use. Semi-flexible, being approximately $1 \times \frac{3}{4}$ inch. Length overall, 27 inches. Has fine, black, sunken lines and figures, permanent and easy to read closely. Point measurements are to the true type foundry standard. 72 points equal .996 standard inch.

No. 573 24-inch Newspaper and Type Rule. Price, each \$4.00
Graduations: One side, 24 inches to 16ths; other side, right hand edge 336 agate lines, left hand edge 6 and 12-point (nonpareil and pica) up to 290 nonpareil lines, i.e., 145 picas.

NOTE: Printer's Pocket Tapes and Tape-Rules—See pages 60 and 85-B.

Brass Counter Rules



Handy wherever goods are sold over the counter by the yard. Extensively used in dry goods and department stores. An accurate measure, easy to read from either side of the counter, most satisfactory to buyer and seller. Of hard brass, $\frac{3}{4}$ inch x 18 gage (.040 inch). All drilled and countersunk for attaching to counter. Marked one side only with permanent, sunken, black lines and figures.

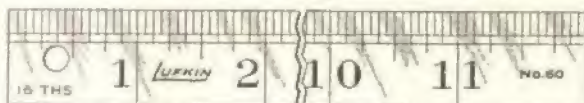
No. 1068 3 foot. Brass Counter Rule. Marked fractions of yards only as follows: $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$, $\frac{1}{16}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{3}{4}$, $\frac{7}{8}$, $\frac{1}{4}$ and $\frac{3}{8}$ Each \$1.50

No. 1069 3 foot. Brass Counter Rule. Marked upper edge inches to 8ths; lower edge fractions of yards as follows:

$\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$, $\frac{1}{16}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{3}{4}$, $\frac{7}{8}$, $\frac{1}{4}$ and $\frac{3}{8}$ Each \$2.00

Weight each, 5 ozs.

Manual Training Steel Rules



A tempered steel rule graduated to 16ths, popular for school shop and other uses. $\frac{3}{4}$ inch wide, $\frac{1}{2}$ inch thick. Has machine divided, sunken lines and figures in black, contrasting with the steel rule surface. Opposite sides read from reverse ends. Hole in one end for hanging up.

Always Specify Stock Number and Length

Marked Upper Edge of Both Sides; One Side 8ths, Other Side 16ths Inch

No. 60 1-ft. Steel Rule. Weight, each $1\frac{1}{2}$ ozs. Price, each \$0.50

No. 60 2-ft. Steel Rule. Weight, each 3 ozs. Price, each 1.00

One-Piece Long Steel Rules



Tempered steel rules of medium weight. Well suited to such school and shop bench work and other work as requires a long, one-piece metal rule to 16ths. Markings are heavier than on machine divided scales. $1\frac{1}{4}$ inch wide, $\frac{1}{2}$ inch thick, $\frac{1}{4}$ inch hole in one end. Prominent graduation lines and figures, sunken and black, easy to read. Opposite sides measure from reverse ends.

Always Specify Stock Number and Length

Marked Both Sides, Both Edges; Upper Edge 8ths, Lower Edge 16ths Inch

No. 62 1-ft. Steel Rule. Weight, each 5 ozs. Price, each \$ 1.50

No. 62 2-ft. Steel Rule. Weight, each 9 ozs. Price, each 2.50

No. 62 3-ft. Steel Rule. Weight, each 13 ozs. Price, each 3.60

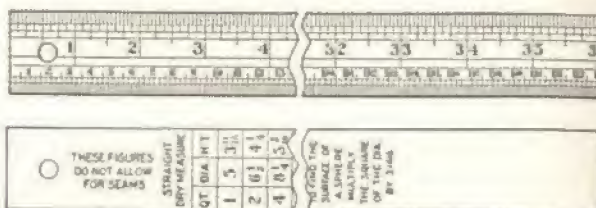
No. 62 4-ft. Steel Rule. Weight, each 18 ozs. Price, each 5.50

No. 62 5-ft. Steel Rule. Weight, each 22 ozs. Price, each 7.50

No. 62 6-ft. Steel Rule. Weight, each 26 ozs. Price, each 9.60

No. 62 8-ft. Steel Rule. Weight, each 35 ozs. ROSE TOOLS, INC., each 14.00

Tinners Steel Circumference Rules



A Standard Tool with Tinners and Other Sheet Metal Workers

Tempered steel rules of medium weight. $1\frac{1}{4}$ inch wide, $\frac{1}{16}$ inch thick. Quarter inch hole at first end for hanging up. Sunken, black graduation lines and figures, easy to read and permanent. Rules furnished either not plated or nickel plated.

Marked one side, upper edge standard inches to 16ths, lower edge circumference inches to 8ths. Applied to diameter this rule gives at a direct reading both the diameter and the corresponding circumference. The three foot rule carries 113 circumference inches, the four foot, 150. Other side carries formulas for calculating circumference, diameter, area, etc., and size tables for laying out measures and cans as follows:

Flaring Liquid Measure.....	$\frac{1}{4}$ pint to 5 gallons.
Flaring Dry Measure.....	$\frac{1}{4}$ bushel to 2 bushels.
Straight Dry Measure.....	1 quart to 3 bushels.
Pitched Top Cans.....	1 to 10 gallons.
Flat Top Cans.....	1 to 100 gallons.

Always Specify Stock Number, Length and Whether Plain or Nickel Plated

No. 95	3-ft. Plain.	Tinners Rule.....	Price, each	\$4.50
No. 95	4-ft. Plain.	Tinners Rule.....	Price, each	5.50
No. 95	3-ft. Nickel Plated.	Tinners Rule.....	Price, each	5.50
No. 95	4-ft. Nickel Plated.	Tinners Rule.....	Price, each	6.50

Weight each: 3 ft., 13 ozs. 4 ft., 15 ozs.

NOTE: These rules can be supplied with the tables on the basis of Imperia, rather than U. S. Wine Gallons. Regularly so furnished to the Canadian trade.

Steel Circumference Rules

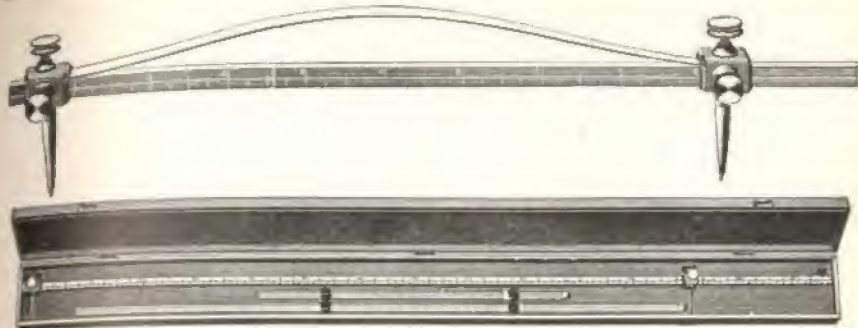


Medium weight tempered steel rules, $1\frac{1}{4} \times \frac{1}{16}$ inch. Sunken, black markings, permanent and prominent. Quarter inch hole at first end for hanging up. Rules supplied either not plated or nickel plated.

These rules are exactly same as No. 95, above, except tables and formulas eliminated and that side carrying instead standard measure, 8ths and 16ths inch, i.e., they are marked as follows: One side, upper edge standard inches to 8ths, lower edge to 16ths; other side, upper edge standard inches to 16ths, lower edge circumference inches to 8ths. Applied to diameter this rule also gives at a direct reading both the diameter and the corresponding circumference. Opposite sides read from same end.

Always Specify Stock Number, Length and Whether Plain or Nickel Plated

No. 96	3-ft. Plain.	Circumference Rule.....	Price, each	\$4.50
No. 96	4-ft. Plain.	Circumference Rule.....	Price, each	5.50
No. 96	3-ft. Nickel Plated.	Circumference Rule.....	Price, each	5.50
No. 96	4-ft. Nickel Plated.	Circumference Rule.....	Price, each	6.50



"Magic" Pattern Rule

A Great Labor Saving Device for Every Tin Shop

The popular device for quickly and accurately laying out sheet metal elbow patterns of any angle and up to 15 inches in diameter. The "Magic" Pattern Rule can be used also as a common rule, a circumference rule, a trammel, and a straight edge for ordinary work.

Consists of a graduated, 49-inch steel bar $\frac{7}{16}$ inch square, fitted with two, brass, sliding trammel heads, each head having two set screws, two gibs and one removable steel point. Furnished with each rule there is also a set of three flexible steel ribbons of different gages, one each 24, 36 and 48 inches long, and an instruction chart. The whole outfit is put up in a good, hinged, wooden box.

The bar has permanent, sunken markings; 47 standard inches to 8ths one side, 15 diameter inches to 8ths other side. Bar and all its parts are nicely nickel plated. The chart is 18 x 23 inches in size, clearly printed, and mounted on linen. It is very durable and is equipped for hanging up. In addition to the elbow diagram and instructions, it carries rules for cutting many kinds of flaring, oval, cylindrical and cone shaped vessels, with the aid of the "Magic" Pattern Rule.

When laying out an elbow pattern, select from among the three steel ribbons, the proper one for use with the bar. Fasten left hand trammel at zero point on the bar. Set right hand trammel according to diameter elbow wanted. Raise the steel ribbon to the required height according to the angle elbow wanted. A glance at the chart gives this height.

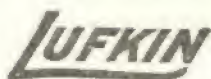
Example: Wanted, an elbow 6 inches in diameter and of an angle corresponding with long line "C" on the chart. Set right hand trammel at Figure 6 on front side of bar, i.e., diameter measure side. On the chart, measure with an ordinary rule the length of the perpendicular line 6 from bottom of diagram to where it meets angle line "C." Raise steel ribbon to this height, fasten it with set screw, and it is set ready for a pattern. (For extra large elbows take twice the height indicated on chart for one-half the size.)

"Magic" Pattern Rule, Complete with Chart and Box Price, each \$20.00

Chart Only for "Magic" Rule Price, each \$1.30

Weight of Rule complete with ROSE TOOLS, INC.

Section Seven



PRECISION TOOLS

Micrometers.

Combination Squares.

Calipers and Dividers.

Steel Scales.

Gages.

Etc.

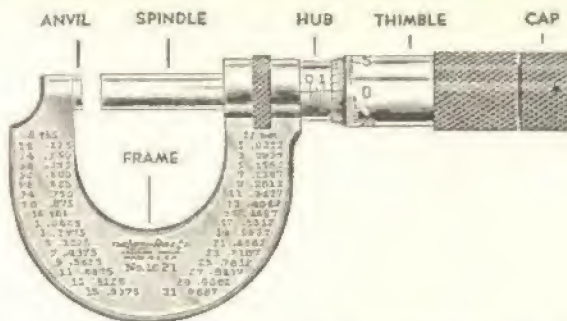
PRECISION Tools are the product of a separate division of our plant, in which we bring to the choice of materials and to the designing, manufacturing and inspecting of each tool that specialized knowledge and care which insures its superior quality.

Our Precision Tool Division is, however, a unit under the same general management as the manufacture of our Measuring Tapes, etc. In building and marketing these Tools we are not only maintaining but extending the high reputation which our Measuring Tapes and Rules have borne for many years.

LUFKIN Tools are well designed and finished, but, more important, they have a number of improved and exclusive features that are a really great aid to mechanics.

Thus this Line, in what comparatively is a short time, has won the favor of fine mechanics and established itself high among the leaders of its kind.

While this Section of this General Catalog covers our Precision Tools, we issue a separate Catalog confined to such Tools, exclusively. That Precision Tool Catalog we gladly send on request to Mechanics and the Trade.



General Description of Micrometer Calipers (Pages 142 to 166)

LUFKIN Micrometers are made in various patterns and have valuable improved and patented features. Among these are:

SIMPLICITY OF CONSTRUCTION. EASE OF ADJUSTMENTS. "RAPID READING."
READING LINES ALWAYS MAINTAIN THEIR ORIGINAL POSITION.

All are of special analysis steel, making them rigid, reliable and durable. The anvil and the spindle and screw are of finest quality tool steel, properly hardened. The anvil is forced into the frame, making it a permanent, fixed part of the tool.

AS TO PATTERN, WE OFFER THREE TYPES OF MICROMETERS:

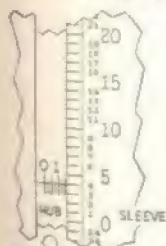
- (1) Full Finished Frame.
- (2) Enameled, Medium Weight, Ribbed Frame.
- (3) Enameled, Heavy, Ribbed Frame.

Directions for Reading **LUFKIN** Micrometer Calipers

To Read a Measurement to Thousandths Inch:

Read first the total of thousandths indicated by the lines on the hub (each of those lines represents 25) as .025, .050, .075, .100, .125, etc. To this add the intermediate thousandths, reading these directly off the sleeve, where each one, 1 to 24, is numbered.

Example (per Cut to the left): Hub reading total is 150
Sleeve reading is 4
Total Measurement is .154 inch



READING TO .154

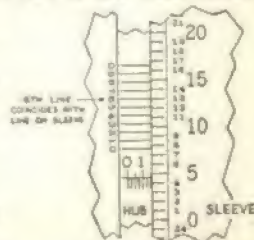
Per Cut to the right, the hub bears ten of these division lines occupying the same space as nine divisions on the sleeve, and numbered 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 0.

To the reading on the hub add the reading on the sleeve, as detailed top of this page, this giving the total of full thousandths. To that add the reading of that line on the vernier which coincides with a line on the sleeve. If that be the line numbered 4, it means .0004, i.e., 4/10,000ths inch.

Example: Cut to the right shows total measurement .1546 inch. This is the grand total of 150 thousandths indicated on hub, plus 4 thousandths indicated on sleeve, plus 6 ten-thousandths indicated on vernier.

To Read a Measurement to Ten-Thousandths of an Inch:

Measurements to ten-thousandths inch are obtained by using vernier graduations (a series of divisions on the hub of our Micrometer).



READING TO .1546

Construction Features of the Following Micrometers

Full Finished Type, No. 600 and 1600 Series, 1-inch and Over.

Also All No. 1900 Series.

In these Micrometers, 3 parts, Spindle, Thimble and Cap, enter into the adjustment for wear on anvil and spindle faces. On the Spindle, the thread that engages the screw nut runs to its very end. The Thimble is screwed onto the Spindle. A chuck is formed on the end of the Thimble, and tightening the Cap locks Thimble to Spindle very firmly, resulting in a most secure setting. As the Cap does not touch the Spindle, it cannot change the setting.

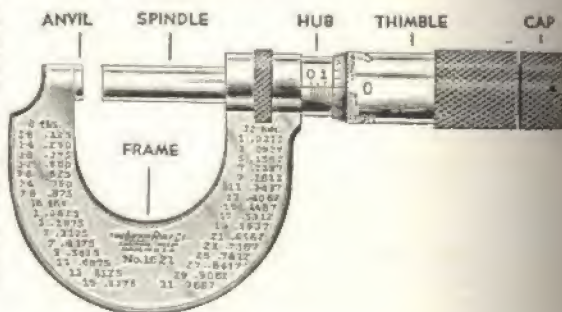
Thus we retain that excellent feature of Lufkin Micrometers, i.e., even after grinding and lapping anvil and spindle faces the reading lines always maintain their original position, are directly in line of vision.

Directions for Adjusting the Following Micrometers for Wear on Faces of Anvil and Spindle

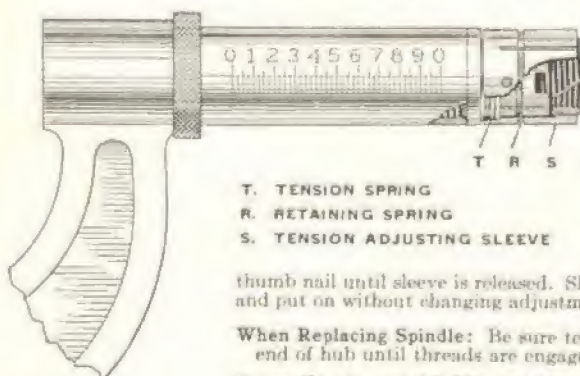
Full Finished Type, No. 600 and 1600 Series, 1-inch and Over.

Also All No. 1900 Series.

Loosen Cap with wrench. Grip Spindle and give Thimble about $\frac{1}{4}$ turn counter-clockwise. Then, by turning Thimble, bring Micrometer to the zero reading. By gripping Spindle, back it away from Anvil. Then test whether Micrometer is properly set. If so, grip Spindle and back it away from Anvil. Then grip Thimble only and tighten Cap with wrench.



*For Adjustment of No. 1800 Series
and Other Micrometers Not Included Above—See page 152.*



- T. TENSION SPRING**
R. RETAINING SPRING
S. TENSION ADJUSTING SLEEVE

Screw Tension of No. 1900 Series:

On this Series no changing of screw tension is ordinarily necessary, as the tension spring automatically takes up wear.

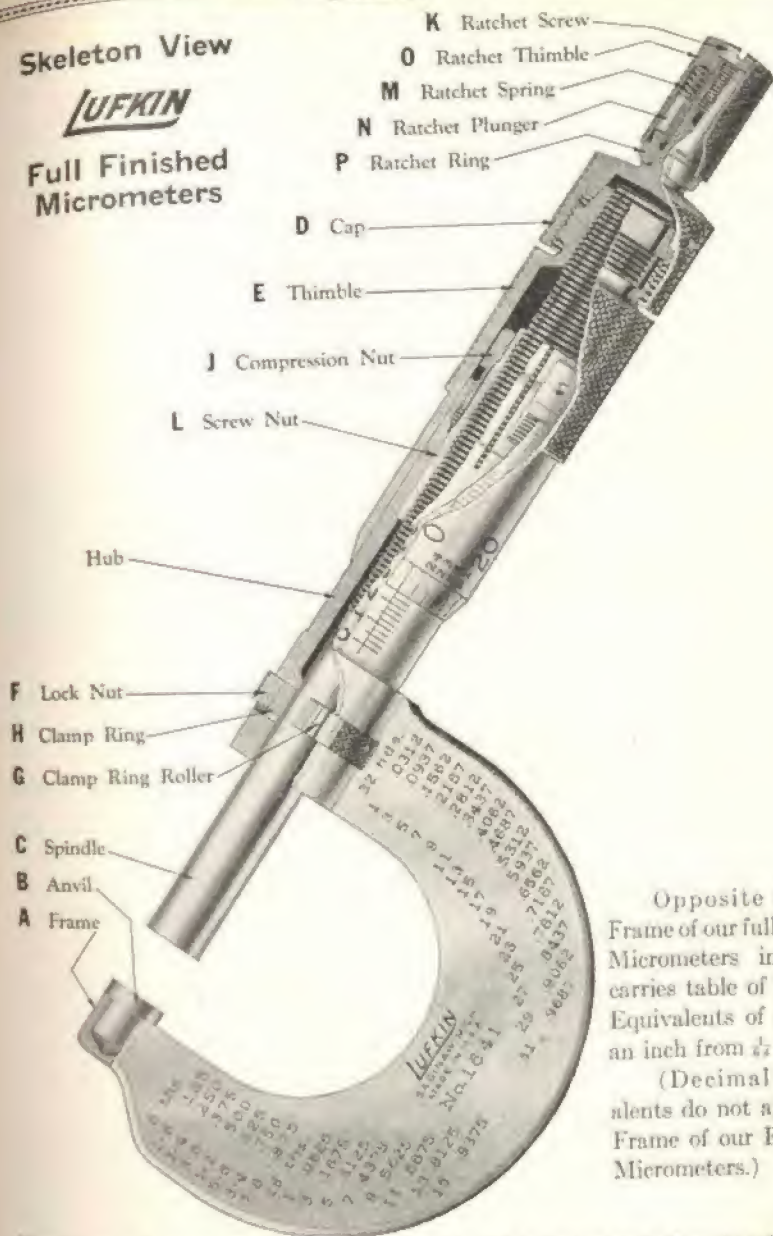
For Cleaning: To remove tension adjusting sleeve "S" and tension spring "T," remove spindle, turn retaining spring "R" by pushing it with pin or thumb nail until sleeve is released. Sleeve and spring can be taken off

and put on without changing adjustment.

When Replacing Spindle: Be sure tension nut is held firmly against end of hub until threads are engaged in frame.

Screw Tension of All Micrometers Other Than No. 1900 Series:
To change this tension: With the wrench, adjust nut on end of hub.

Skeleton View

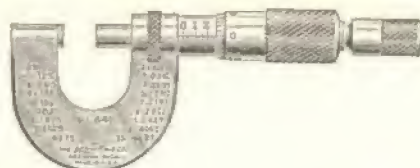
LUFKINFull Finished
Micrometers

Opposite side of Frame of our full finished Micrometers in inches carries table of Decimal Equivalents of 64ths of an inch from $\frac{1}{16}$ to $\frac{15}{16}$ ths.

(Decimal Equivalents do not appear on Frame of our Enamelled Micrometers.)

NOTE: A card, carrying this skeleton view enlarged, together with directions for adjusting these Micrometers, and bearing on reverse side a Table of Decimal Equivalents, we gladly send on request. Card is size $8\frac{1}{2} \times 11$ inches and equipped for hanging up. It is very handy in the tool crib, also for purposes of instruction at schools, etc.

ROSE TOOLS, INC.



Half-Inch Micrometer Calipers

(PATENTED)

Full Finished Frame

Rapid Reading (each thousandth numbered)

For Measuring by Thousandths

Number			Price Each
610	Plain.....	Range: 0 to $\frac{1}{2}$ inch.	\$ 7.00
620	With Lock Nut.....	Range: 0 to $\frac{1}{2}$ inch.	8.00
630	With Ratchet Stop.....	Range: 0 to $\frac{1}{2}$ inch.	7.50
640	With Lock Nut and Ratchet Stop.....	Range: 0 to $\frac{1}{2}$ inch.	8.50

For Measuring by Ten-thousandths

610V	Plain.....	Range: 0 to $\frac{1}{2}$ inch.	\$ 8.75
620V	With Lock Nut.....	Range: 0 to $\frac{1}{2}$ inch.	9.75
630V	With Ratchet Stop.....	Range: 0 to $\frac{1}{2}$ inch.	9.25
640V	With Lock Nut and Ratchet Stop.....	Range: 0 to $\frac{1}{2}$ inch.	10.25

Cut Away Frame

Any Micrometer on this page can be furnished with Full Finished Cut Away Frame at no extra charge. Specify by prefix "1" to stock number, as 1610, 1620, etc.

Metric Micrometer Calipers. 13 MM.

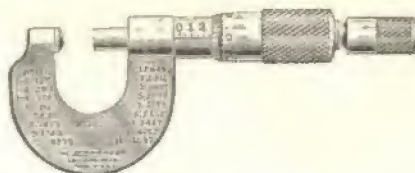
Full Finished Frame

For Measuring by Hundredths of a Millimeter

610M	Plain.....	Range: 0 to 13 mm.	\$ 7.00
620M	With Lock Nut.....	Range: 0 to 13 mm.	8.00
630M	With Ratchet Stop.....	Range: 0 to 13 mm.	7.50
640M	With Lock Nut and Ratchet Stop.....	Range: 0 to 13 mm.	8.50

Packing: One in a box. Weight each: 3 ounces

NOTE: Directions for Adjusting All Above Micrometers — See page 152.



Tubing Micrometer Calipers

(PATENTED)

Two Types: Full Finished Frame. Enameled Frame.

All Frames Cut Away

Rapid Reading (each thousandth numbered)

Micrometers listed on this page will accurately measure thickness of tubing walls, etc. Nos. 2610 and 2630 are suitable for tubing as small as $\frac{3}{16}$ inch (8 mm.); Nos. 2611 and 2631 down to $\frac{3}{8}$ inch (9½ mm.).

The end of anvil is rounded so it touches at only one point on the inside of tube; the end of spindle is flat so it touches at only one point on outside; thus giving exact thickness. Cut away frame gives clearance.

HALF-INCH MICROMETER CALIPERS FOR TUBING

Full Finished, Cut Away Frame

For Measuring by Thousandths

Number			Price Each
2610	Plain	Range: 0 to ½ inch.	\$8.00
2630	With Ratchet Stop	Range: 0 to ½ inch.	8.50

ONE-INCH MICROMETER CALIPERS FOR TUBING

Full Finished, Cut Away Frame

For Measuring by Thousandths

2611	Plain	Range: 0 to 1 inch.	\$ 9.50
2631	With Ratchet Stop	Range: 0 to 1 inch.	10.00

ONE-INCH MICROMETER CALIPER FOR TUBING

Enameled, Heavy, Ribbed Frame

For Measuring by Thousandths

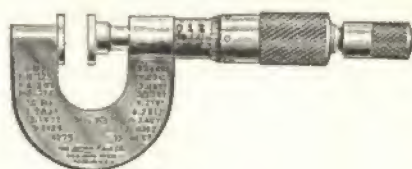
2911	Plain	Range: 0 to 1 inch.	\$7.25
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Packing: One in a box.

Weight each: ½-inch 3 ozs. 1-inch 7 ozs.

Notes: Metric Tubing Micrometers—These in ranges 0 to 13 and 0 to 25 mm., can also be supplied. Prices same as corresponding ½ and 1-inch sizes.

ROSE TOOLS, INC.



Paper Gage Micrometer Calipers. $\frac{3}{8}$ Inch.

(PATENTED)

Full Finished Frame

Rapid Reading (each thousandth numbered)

Designed for measuring the thickness of paper, sheet rubber, cardboard and other soft materials. The measuring surfaces being large, ($\frac{3}{16}$ inch in diameter), do not compress the material as much as the regular anvil and spindle, so measurements are taken more quickly and accurately.

Paper Gage Micrometers for Measuring by Thousandths

Number		Price Each
3610	Plain.....Range: 0 to $\frac{3}{8}$ inch.	\$ 9.50
3630	With Ratchet Stop.....Range: 0 to $\frac{3}{8}$ inch.	10.00

Metric Paper Gage Micrometer Calipers. 9 MM.

Full Finished Frame

These Micrometers have large measuring faces just as described above.

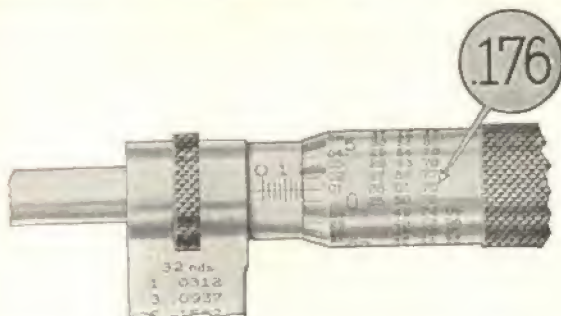
For Measuring by Hundredths of a Millimeter

3610M	Plain.....Range: 0 to 9 mm.	\$ 9.50
3630M	With Ratchet Stop.....Range: 0 to 9 mm.	10.00

Finger Ring, attached to any of above Micrometers, furnished when specified.
Extra for Finger Ring.....1.00

Packing: One in a box. Weight each: 3 ounces

NOTE: Directions for Adjusting All Above Micrometers — See page 152.



Direct Indicating One-Inch Micrometer Calipers

(PATENTED)

Full Finished, Cut Away Frame

These Micrometers give the total reading of the measurement, avoiding additions which are always a chance for error. They have no complicated gears or counters. The total reading is shown at a glance by an ingenious arrangement of figures on the sleeve.

The hub markings are same as on regular type Micrometers: the hundreds of thousandths are indicated by long lines, numbered 0 to 9; the shorter, intermediate lines, which are in groups of three, indicate .025, .050 and .075 inch respectively. The sleeve is notched or cut away at the zero point so that at each revolution of the spindle a new line comes instantly into view when zero is reached. On the sleeve a row of figures from 0 to 24 is shown nearest the edge. To the right of that is a group of three rows of figures indicating 25 to 49, 50 to 74 and 75 to 99, so arranged in spiral form that each row carries into the next without jumping over.

Directions for Reading

Note on the hub the last line in view. If it is a long line, read in edge column on sleeve. If it is the first short line, read in first row of figures in the group of three. If the second short line shows, read in second row of the group of three; if third line, read in third row. Prefix to this reading the figure indicating hundreds of thousandths. You then have the full reading without any calculation, no chance of errors in addition as by the old method.

On these "Direct Indicating" Micrometers it is as simple as on any others to read measurement by the old method, and the new user of them may wish to so verify his first readings. Practice will soon convince him that this "Direct Indicating" method of reading is practical and positive, saves time and avoids errors.

Micrometer No. 1641V-DI will read to one ten-thousandths part of an inch. With it, the thousandths are read as detailed above, the ten-thousandths by using the vernier graduations on the hub in the manner described page 139.

For Measuring by Thousandths

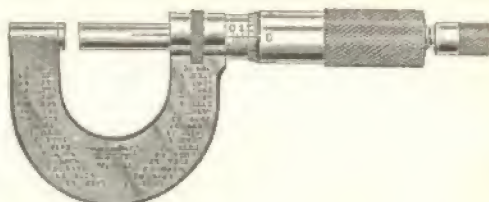
Number		Price Each
1641DI	With Lock Nut and Ratchet Stop.....Range: 0 to 1 inch.	\$11.00

For Measuring by Ten-thousandths

1641V-DI	With Lock Nut and Ratchet Stop.....Range: 0 to 1 inch.	12.75
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Packing: One in a box. Weight each: 7 ounces

ROSE TOOLS, INC.



One-Inch Micrometer Calipers

(PATENTED)

Full Finished Frame

Rapid Reading (each thousandth numbered)

For Measuring by Thousandths

Number			Price Each
611	Plain.....	Range: 0 to 1 inch.	\$ 8.50
621	With Lock Nut.....	Range: 0 to 1 inch.	9.50
631	With Ratchet Stop.....	Range: 0 to 1 inch.	9.00
641	With Lock Nut and Ratchet Stop.....	Range: 0 to 1 inch.	10.00

For Measuring by Ten-thousandths

611V	Plain.....	Range: 0 to 1 inch.	\$10.25
621V	With Lock Nut.....	Range: 0 to 1 inch.	11.25
631V	With Ratchet Stop.....	Range: 0 to 1 inch.	10.75
641V	With Lock Nut and Ratchet Stop.....	Range: 0 to 1 inch.	11.75

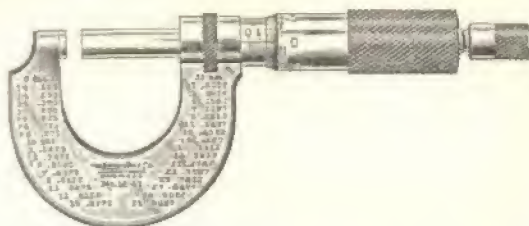
Metric Micrometer Calipers. 25 MM.

Full Finished Frame

For Measuring by Hundredths of a Millimeter

611M	Plain.....	Range: 0 to 25 mm.	\$ 8.50
621M	With Lock Nut.....	Range: 0 to 25 mm.	9.50
631M	With Ratchet Stop.....	Range: 0 to 25 mm.	9.00
641M	With Lock Nut and Ratchet Stop.....	Range: 0 to 25 mm.	10.00

Packing: One in a box. Weight each: 7 ounces



One-Inch Micrometer Calipers

(PATENTED)

Full Finished, Cut Away Frame

Rapid Reading (each thousandth numbered)

Having cut away frame, these Micrometers are suitable for taking many measurements where those without this feature could not be used. The combined depth of anvil and frame of these Micrometers is approximately $1\frac{1}{2}$ inch (9 mm.).

For Measuring by Thousandths

Number			Price Each
1611	Plain.....	Range: 0 to 1 inch.	\$ 8.50
1621	With Lock Nut.....	Range: 0 to 1 inch.	9.50
1631	With Ratchet Stop.....	Range: 0 to 1 inch.	9.00
1641	With Lock Nut and Ratchet Stop.....	Range: 0 to 1 inch.	10.00

For Measuring by Ten-thousandths

1611V	Plain.....	Range: 0 to 1 inch.	\$10.25
1621V	With Lock Nut.....	Range: 0 to 1 inch.	11.25
1631V	With Ratchet Stop.....	Range: 0 to 1 inch.	10.75
1641V	With Lock Nut and Ratchet Stop.....	Range: 0 to 1 inch.	11.75

Metric Micrometer Calipers. 25 MM.

Full Finished, Cut Away Frame

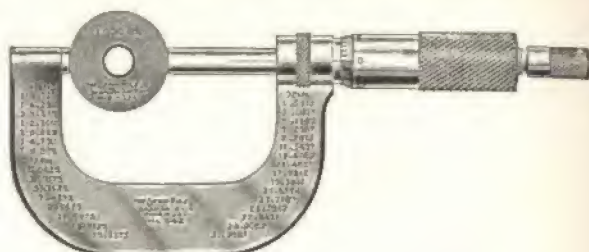
(As described above)

For Measuring by Hundredths of a Millimeter

1611M	Plain.....	Range: 0 to 25 mm.	\$ 8.50
1621M	With Lock Nut.....	Range: 0 to 25 mm.	9.50
1631M	With Ratchet Stop.....	Range: 0 to 25 mm.	9.00
1641M	With Lock Nut and Ratchet Stop.....	Range: 0 to 25 mm.	10.00

Packing: One in a box. Weight each: 7 ounces

ROSE TOOLS, INC.



Two-Inch Micrometer Calipers

(PATENTED)

Full Finished Frame

Rapid Reading (each thousandth numbered)

For Measuring by Thousandths

Number			Price Each
612	Plain	Range: 1 to 2 inches.	\$ 9.50
622	With Lock Nut	Range: 1 to 2 inches.	10.50
632	With Ratchet Stop	Range: 1 to 2 inches.	10.00
642	With Lock Nut and Ratchet Stop	Range: 1 to 2 inches.	11.00

For Measuring by Ten-thousandths

612V	Plain	Range: 1 to 2 inches.	\$11.25
622V	With Lock Nut	Range: 1 to 2 inches.	12.25
632V	With Ratchet Stop	Range: 1 to 2 inches.	11.75
642V	With Lock Nut and Ratchet Stop	Range: 1 to 2 inches.	12.75

One-inch test gage supplied with all above Micrometers

Metric Micrometer Calipers. 50 MM.

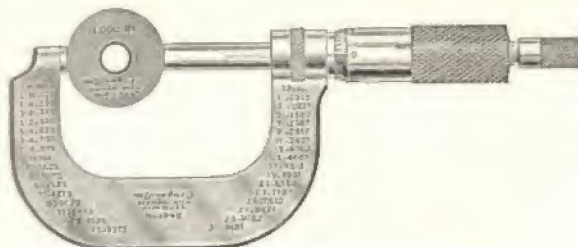
Full Finished Frame

For Measuring by Hundredths of a Millimeter

612M	Plain	Range: 25 to 50 mm.	\$ 9.50
622M	With Lock Nut	Range: 25 to 50 mm.	10.50
632M	With Ratchet Stop	Range: 25 to 50 mm.	10.00
642M	With Lock Nut and Ratchet Stop	Range: 25 to 50 mm.	11.00

25 mm. test gage supplied with all above Micrometers

Packing: One in a box. Weight each: 10 ounces



Two-Inch Micrometer Calipers

(PATENTED)

Full Finished, Cut Away Frame

Rapid Reading (each thousandth numbered)

Having cut away frame, these Micrometers are suitable for taking many measurements where those without this feature could not be used. The combined depth of anvil and frame of these Micrometers is approximately $\frac{1}{16}$ inch (9 mm.).

For Measuring by Thousandths

Number			Price Each
1612	Plain.....	Range: 1 to 2 inches.	\$ 9.50
1622	With Lock Nut.....	Range: 1 to 2 inches.	10.50
1632	With Ratchet Stop.....	Range: 1 to 2 inches.	10.00
1642	With Lock Nut and Ratchet Stop.....	Range: 1 to 2 inches.	11.00

For Measuring by Ten-thousandths

1612V	Plain.....	Range: 1 to 2 inches.	\$11.25
1622V	With Lock Nut.....	Range: 1 to 2 inches.	12.25
1632V	With Ratchet Stop.....	Range: 1 to 2 inches.	11.75
1642V	With Lock Nut and Ratchet Stop.....	Range: 1 to 2 inches.	12.75

One-inch test gage supplied with all above Micrometers

Metric Micrometer Calipers. 50 MM.

Full Finished, Cut Away Frame

(As described above)

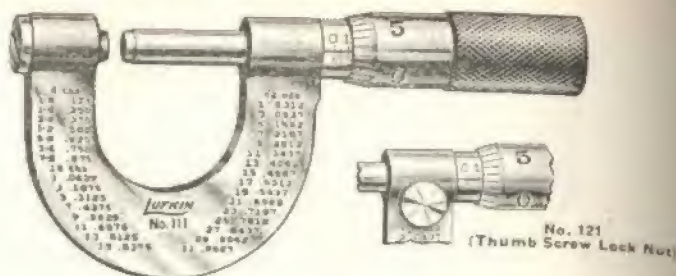
For Measuring by Hundredths of a Millimeter

1612M	Plain.....	Range: 25 to 50 mm.	\$ 9.50
1622M	With Lock Nut.....	Range: 25 to 50 mm.	10.50
1632M	With Ratchet Stop.....	Range: 25 to 50 mm.	10.00
1642M	With Lock Nut and Ratchet Stop.....	Range: 25 to 50 mm.	11.00

25 mm. test gage supplied with all above Micrometers

Packing: One in a box. Weight each: 10 ounces

ROSE TOOLS, INC.



Millmens Micrometers -- One-Inch With Full Finished Frame

**Nos. 111 and 121
ARE THE IDEAL MILL MICROMETERS**
Specially Designed and Built for
Rapid Gaging of Hot or Cold Mill Sheets, etc.

These Micrometers Have the Following Outstanding Features:

- Easy to read. Have large, heavy face figures and prominent graduations.
- Slide most readily onto the work. Have long bevel on anvil and spindle.
- Adjustment for wear is quick, simple and positive. It requires only a common screw driver and can be done right on the job. This adjustment is made in the anvil instead of the thimble. (For method, see below.)
- Spindle is securely pinned to thimble.
- Construction prevents any loosening of screw nut from effects of heat.
- Anvil and spindle give extra long service, being of special analysis steel.
- (Anvil can readily be replaced.)

Number 121 has thumb screw lock nut, with round, knurled head. On Nos. 111 and 121 the adjustment for wear on anvil and spindle faces is made in the anvil and the outer end screw serves both as protecting cap and anvil lock screw.

Method of This Adjustment:

With screw driver remove screw at outer end of frame. Turn spindle to zero. With screw driver turn adjustment screw until anvil contacts spindle. Micrometer is then in adjustment, with anvil securely set.

For Measuring by Thousandths

Number		Price, Each
111	Millmens Micrometer. Plain. Range: 0 to 1 inch	\$8.50
121	Millmens Micrometer. With Thumb Screw Lock Nut. Range: 0 to 1 inch	9.50

Packing: One in a box. Weight each: 7 ozs.

NOTE: Similar Micrometer With Wood Handle—See No. 121H, page 151.

Millmens Micrometer -- One-Inch



Full Finished Frame

For Gaging Hot Metal

Wood Handle. Wing Head Lock Nut.

Designed for rapid gaging of mill sheets, etc., and used principally on hot metal, this Micrometer has:

Wood Handle, giving secure grip safely away from the work.

Wing Head Lock Nut, easiest to grasp and lock firmly, even with gloved hand. Also releases quickly.

Anvil adjustment for wear, quick and positive, requiring only use of a common screw driver.

Prominent figures and graduations.

Long bevel on anvil and spindle.

Spindle securely pinned to thimble.

Screw nut which will not loosen from effects of heat.

Method of Adjustment: With screw driver remove screw at outer end of frame. Turn spindle to zero. With screw driver turn adjustment screw until anvil contacts spindle. Micrometer is then in adjustment, with anvil securely set; end screw serves both as anvil lock screw and protecting cap.

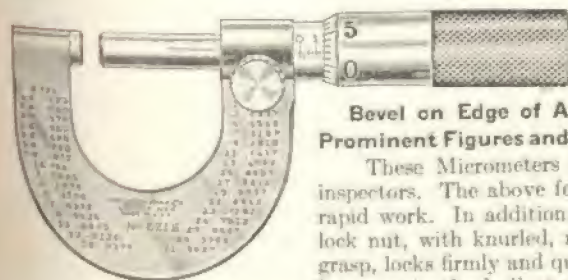
For Measuring By Thousandths—Range: 0 to 1 inch

No. 121H Millmens Micrometer. Wood handle. Wing Head Lock Nut. Each \$12.00

NOTE: Similar Micrometer Without Wood Handle—No. 121, page 150.

One-Inch Micrometer Calipers

(PATENTED)



Full Finished Frame

Bevel on Edge of Anvil and Spindle Faces
Prominent Figures and Graduations, Easy to Read

These Micrometers are used principally by mill inspectors. The above features make them handy for rapid work. In addition, No. 621B has thumb screw lock nut, with knurled, round head, which is easy to grasp, locks firmly and quickly, releases quickly. Both have our standard adjustments, etc., as detailed page 140.

For Measuring By Thousandths

No. 611B Plain..... Range: 0 to 1 inch. Each \$8.50

No. 621B With Thumb Screw Lock Nut..... Range: 0 to 1 inch. Each 9.50

Packing: One in a box. Weight each: No. 121H, 7 ozs. and 621B, 7 ozs.

ROSE TOOLS INC.



Millmens Micrometers

(PATENTED)

Half-Inch and One-Inch

With Extra Heavy, Ribbed Frame
Enameled

For Gaging Hot Metal
Wood Handle. Wing Head Lock Nut.

These are extra sturdy Micrometers, used principally in hot mills and suitable for this heavy duty.

They have most rigid frame, spindle of greater diameter and throat deeper than standard type Micrometers. The ample size wood handle gives secure grip, safely away from the hot metal. Lock nut, having wing head, is easy to grasp even with gloved hand, locks firmly, locks and releases quickly. Anvil and spindle faces are beveled, more readily applied to the work. Figures and graduations are extra prominent, easy to read.

For Measuring By Thousandths

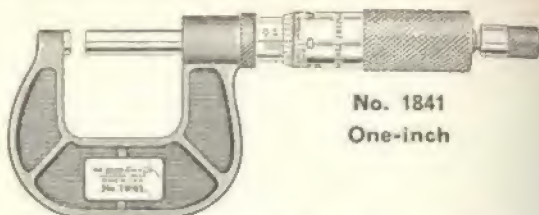
Number		Price, each
920BH	Millmens Micrometer. Wood Handle. Wing Head Lock Nut. .....Range: 0 to $\frac{1}{2}$ inch	\$14.50
921BH	Millmens Micrometer. Wood Handle. Wing Head Lock Nut. .....Range: 0 to 1 inch	15.50

Packing: One in a box. Weight each: 920BH, 14 ozs., 921BH, 15 ozs.

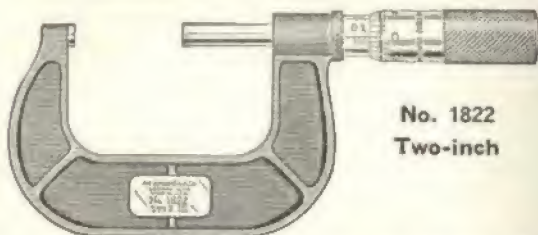
GET LUFKIN FOR ACCURACY



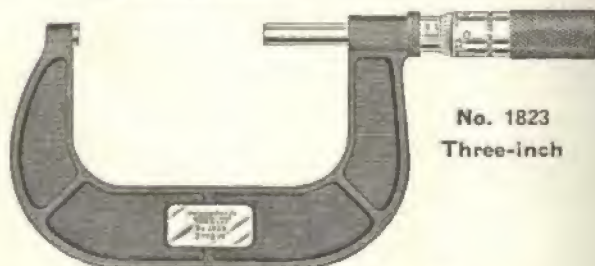
ROSE TOOLS, INC.



No. 1841
One-inch



No. 1822
Two-inch



No. 1823
Three-inch

Micrometer Calipers (PATENTED)

With Enameled, Medium Weight, Ribbed Frame
One-inch. Two-inch. Three-inch.

Rapid Reading (each thousandth numbered)

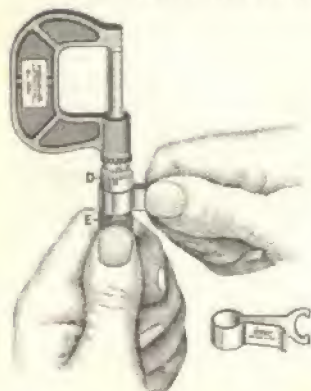
FOR LISTINGS AND FURTHER DESCRIPTION, SEE PAGE 153

Directions for Adjusting No. 1800 Series Micrometers

To Adjust for Wear on Faces of Anvil and Spindle:

Clean the faces of anvil and spindle and bring them together. Slip the frictional wrench over sleeve "D," then hold the Micrometer and wrench in the position here illustrated. (This brings the reading lines directly in view, so adjusting can be done in either direction without removing the wrench.) Then grip the wrench firmly and rotate graduated sleeve "D" until zero line of this sleeve coincides with reading line on the hub. (Sleeve "D" is threadedly engaged in thimble "E.")

To Change Screw Tension: With the wrench, adjust nut on end of hub.



Micrometer Calipers (Illustrated page 152)

(PATENTED)

One-inch.**Two-inch.****Three-inch.****Enameled, Medium Weight, Ribbed Frame****Rapid Reading (each thousandth numbered)**

These Micrometers have found a place with mechanics, and are a type especially popular with those in inspection work.

This is our intermediate line, priced the same as our heavy ribbed Micrometers, the 1900 Series shown pages 156 and 157, but with frame of somewhat lighter weight and different shape. These Micrometers have enameled frame, edge and cross ribbed, and the difference in shape is made clear by comparing illustrations pages 152 and 156. These have spindle of same diameter as our full finished Micrometers, and have the same smooth action, high degree of accuracy and improved adjustment features.

For Measuring by Thousandths

Number		One-inch Micrometers	Price Each
1811	Plain	Range: 0 to 1 inch.	\$ 6.25
1821	With Lock Nut	Range: 0 to 1 inch.	7.25
1831	With Ratchet Stop	Range: 0 to 1 inch.	6.75
1841	With Lock Nut and Ratchet Stop	Range: 0 to 1 inch.	7.75
		Two-inch Micrometers	
1812	Plain	Range: 1 to 2 inches.	\$ 7.00
1822	With Lock Nut	Range: 1 to 2 inches.	8.00
1832	With Ratchet Stop	Range: 1 to 2 inches.	7.50
1842	With Lock Nut and Ratchet Stop	Range: 1 to 2 inches.	8.50
Extra for 1-inch Test Gage. (Supplied only when ordered.)			1.00
		Three-inch Micrometers	
1813	Plain	Range: 2 to 3 inches.	\$ 7.75
1823	With Lock Nut	Range: 2 to 3 inches.	8.75
1833	With Ratchet Stop	Range: 2 to 3 inches.	8.25
1843	With Lock Nut and Ratchet Stop	Range: 2 to 3 inches.	9.25
Extra for 2-inch Test Gage. (Supplied only when ordered.)			1.25

For Measuring by Ten-thousandths

Number		One-inch Micrometers	
1811V	Plain	Range: 0 to 1 inch.	\$ 8.00
1821V	With Lock Nut	Range: 0 to 1 inch.	9.00
1831V	With Ratchet Stop	Range: 0 to 1 inch.	8.50
1841V	With Lock Nut and Ratchet Stop	Range: 0 to 1 inch.	9.50
		Two-inch Micrometers	
1812V	Plain	Range: 1 to 2 inches.	\$ 8.75
1822V	With Lock Nut	Range: 1 to 2 inches.	9.75
1832V	With Ratchet Stop	Range: 1 to 2 inches.	9.25
1842V	With Lock Nut and Ratchet Stop	Range: 1 to 2 inches.	10.25
Extra for 1-inch Test Gage. (Supplied only when ordered.)			1.00
		Three-inch Micrometers	
1813V	Plain	Range: 2 to 3 inches.	\$ 9.50
1823V	With Lock Nut	Range: 2 to 3 inches.	10.50
1833V	With Ratchet Stop	Range: 2 to 3 inches.	10.00
1843V	With Lock Nut and Ratchet Stop	Range: 2 to 3 inches.	11.00
Extra for 2-inch Test Gage. (Supplied only when ordered.)			1.25

Packing: One in a box

Weight each: 1-inch 6 ozs. 2-inch 8 ozs. 3-inch 10 ozs.

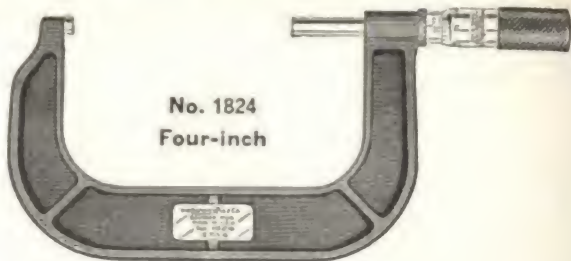
Above Micrometers in 4, 5 and 6-inch Sizes—See page 155.

Above Micrometers in Stainless Steel—See footnote page 159-B.

Metric Micrometers—Any above can also be supplied in metric, ranges 0 to 25, 25 to 50, and 50 to 75 mm. Prices same as corresponding 1, 2 and 3-inch. Simply by suffix "M" as "1811M."

Directions for Adjusting All Above Micrometers—See page 153.

ROSE TOOLS, INC.



No. 1824
Four-inch



No. 1825
Five-inch



No. 1826
Six-inch

Micrometer Calipers

(PATENTED)

With Enameled, Medium Weight, Ribbed Frame

Four-inch.

Five-inch.

Six-inch.

Rapid Reading (each thousandth numbered)

FOR LISTINGS AND FURTHER DESCRIPTION, SEE PAGE 155

Micrometer Calipers (Illustrated page 154)

(PATENTED)

Four-inch.

Five-inch.

Six-inch.

Enameled, Medium Weight, Ribbed Frame

Rapid Reading (each thousandth numbered)

These Micrometers have found a place with mechanics, and are a type especially popular with those in inspection work.

This is our intermediate line, priced the same as our heavy ribbed Micrometers, the 1900 Series shown pages 156 and 157, but with frame of somewhat lighter weight and different shape. These Micrometers have enameled frame, edge and cross ribbed, and the difference in shape is made clear by comparing illustrations pages 154 and 156. These have spindle of same diameter as our full finished Micrometers, and have the same smooth action, high degree of accuracy and improved adjustment features.

For Measuring by Thousandths

Four-inch Micrometers

Number		Price Each
1814	Plain.....Range: 3 to 4 inches.	\$ 8.50
1824	With Lock Nut.....Range: 3 to 4 inches.	9.50
1834	With Ratchet Stop.....Range: 3 to 4 inches.	9.00
1844	With Lock Nut and Ratchet Stop.....Range: 3 to 4 inches.	10.00
Extra for 3-inch Test Gage. (Supplied only when ordered.).....		1.50

Five-inch Micrometers

1815	Plain.....Range: 4 to 5 inches.	\$ 9.25
1825	With Lock Nut.....Range: 4 to 5 inches.	10.25
1835	With Ratchet Stop.....Range: 4 to 5 inches.	9.75
1845	With Lock Nut and Ratchet Stop.....Range: 4 to 5 inches.	10.75
Extra for 4-inch Test Gage. (Supplied only when ordered.).....		1.75

Six-inch Micrometers

1816	Plain.....Range: 5 to 6 inches.	\$10.00
1826	With Lock Nut.....Range: 5 to 6 inches.	11.00
1836	With Ratchet Stop.....Range: 5 to 6 inches.	10.50
1846	With Lock Nut and Ratchet Stop.....Range: 5 to 6 inches.	11.50
Extra for 5-inch Test Gage. (Supplied only when ordered.).....		2.00

Packing: One in a box

Weight each: 4-inch 13 ozs. 5-inch 16 ozs. 6-inch 19 ozs.

Notes: Above Micrometers in 1, 2 and 3-inch Sizes—See page 153.

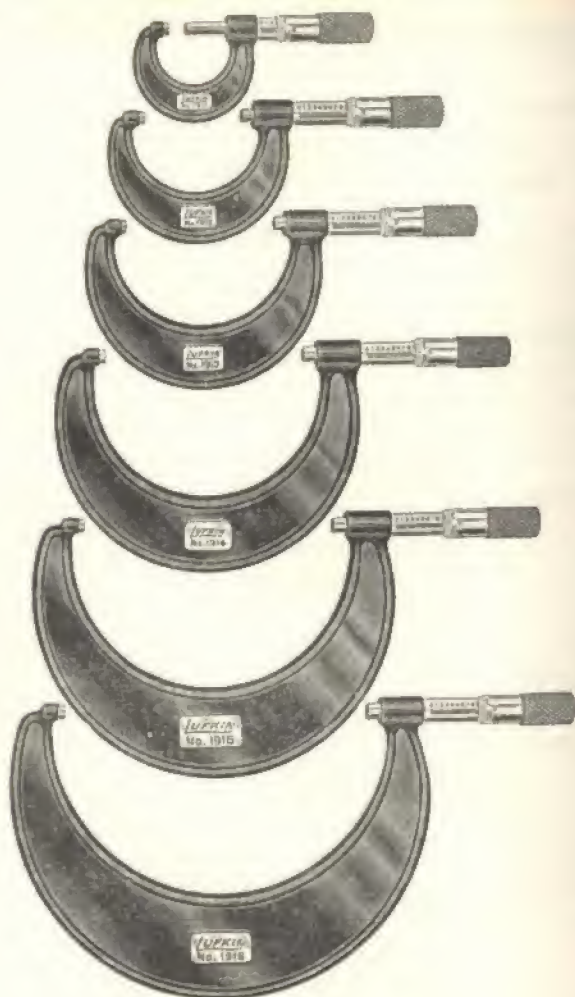
Above Micrometers in Stainless Steel—See footnote page 150-B.

Micrometers Measuring to Ten-thousandths Inch—Any of above can be so supplied at \$1.75 extra each. Specify by suffix "V" as "1814V," etc.

Metric Micrometers—Any above can be supplied in metric, ranges 75 to 100, 100 to 125 and 125 to 150 MM. Prices same as corresponding 4, 5 and 6-inch. Specify by suffix "M" as "1814M," etc.

Directions for Adjusting All Above Micrometers—See page 152.

ROSE TOOLS, INC.



Micrometer Calipers

(PATENTED)

With Enameled, Heavy, Ribbed Frame

One-inch.

Two-inch.
Five-inch.

Three-inch.
Six-inch.

Four-inch.

Rapid Reading (each thousandth numbered)

FOR LISTINGS AND FURTHER DESCRIPTION, SEE PAGE 157

Micrometer Calipers (Illustrated page 156)

(PATENTED)

One-inch. Two-inch. Three-inch. Four-inch. Five-inch. Six-inch.
 Enameled, Heavy, Ribbed Frame. Rapid Reading (each thousandth numbered)

These are our heavy type, enameled, ribbed frame Micrometers, especially designed for production work. To withstand hard usage these have a very sturdy frame, yet they are not of excessive weight. They also have spindle of greater diameter and throat deeper than our other types. These have the same smooth action, high degree of accuracy, and improved adjustment features of all our Micrometers.

For Measuring by Thousandths

One-inch Micrometers			Price Each
Number			
1911	Plain	Range: 0 to 1 inch.	\$ 6.25
1921	With Lock Nut	Range: 0 to 1 inch.	7.25
1931	With Ratchet Stop	Range: 0 to 1 inch.	6.75
1941	With Lock Nut and Ratchet Stop	Range: 0 to 1 inch.	7.75

Two-inch Micrometers			
1912	Plain	Range: 1 to 2 inches.	\$ 7.00
1922	With Lock Nut	Range: 1 to 2 inches.	8.00
1932	With Ratchet Stop	Range: 1 to 2 inches.	7.50
1942	With Lock Nut and Ratchet Stop	Range: 1 to 2 inches.	8.50
Extra for 1-inch Test Gage. (Supplied only when ordered.)			1.00

Three-inch Micrometers			
1913	Plain	Range: 2 to 3 inches.	\$ 7.75
1923	With Lock Nut	Range: 2 to 3 inches.	8.75
1933	With Ratchet Stop	Range: 2 to 3 inches.	8.25
1943	With Lock Nut and Ratchet Stop	Range: 2 to 3 inches.	9.25
Extra for 2-inch Test Gage. (Supplied only when ordered.)			1.25

Four-inch Micrometers			
1914	Plain	Range: 3 to 4 inches.	\$ 8.50
1924	With Lock Nut	Range: 3 to 4 inches.	9.50
1934	With Ratchet Stop	Range: 3 to 4 inches.	9.00
1944	With Lock Nut and Ratchet Stop	Range: 3 to 4 inches.	10.00
Extra for 3-inch Test Gage. (Supplied only when ordered.)			1.50

Five-inch Micrometers			
1915	Plain	Range: 4 to 5 inches.	\$ 9.25
1925	With Lock Nut	Range: 4 to 5 inches.	10.25
1935	With Ratchet Stop	Range: 4 to 5 inches.	9.75
1945	With Lock Nut and Ratchet Stop	Range: 4 to 5 inches.	10.75
Extra for 4-inch Test Gage. (Supplied only when ordered.)			1.75

Six-inch Micrometers			
1916	Plain	Range: 5 to 6 inches.	\$10.00
1926	With Lock Nut	Range: 5 to 6 inches.	11.00
1936	With Ratchet Stop	Range: 5 to 6 inches.	10.50
1946	With Lock Nut and Ratchet Stop	Range: 5 to 6 inches.	11.50
Extra for 5-inch Test Gage. (Supplied only when ordered.)			2.00

Packing: One in a box

Weight each: 1, 2, 3, 4, 5 and 6-inch—7, 9, 12, 19, 22 and 27 ozs.

Notes: Above Micrometers in 7 to 12-inch Sizes—See page 150.

Above Micrometers in Stainless Steel—See pages 159-A and 159-B.

Micrometers Measuring to Ten-thousandths Inch—Any of above can be so supplied at \$1.75 extra each. Specify by suffix "V" as "1941V," etc.

Metric—Above Micrometers can be supplied in Metric at prices same as corresponding sizes in inches. Specify by suffix "M" as "1911M," etc.

ROSE TOOLS, INC.

Micrometer Calipers

(PATENTED)

Seven-inch.

Eight-inch.
Eleven-inch.

Nine-inch.
Twelve-inch.

Ten-inch.

All Have

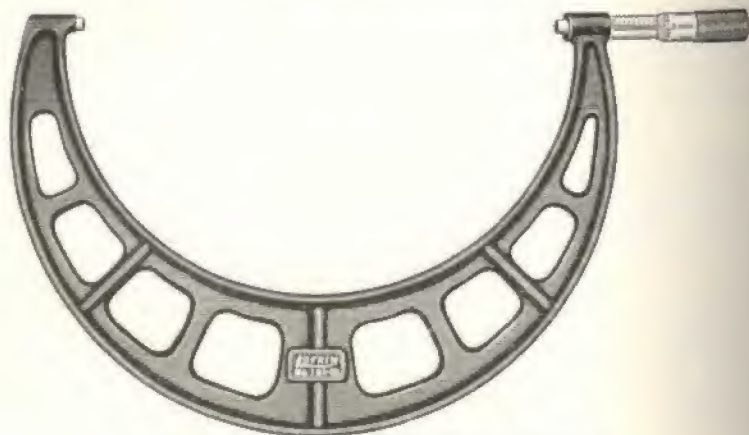
Enameled, Heavy, Ribbed Frame

Rapid Reading (each thousandth numbered)

FOR LISTINGS AND FURTHER DESCRIPTION, SEE PAGE 159



Seven, Eight and Nine-inch Micrometers
Nos. 1917 to 1929 Inclusive
Are of above Pattern
(Frame Not Perforated)



Ten, Eleven and Twelve-inch Micrometers
Nos. 1910 to 192-12 Inclusive
Are of above Pattern
(Frame Perforated)

Micrometer Calipers (Illustrated page 158)

(PATENTED)

Seven-inch. Eight-inch. Nine-inch. Ten-inch. Eleven-inch. Twelve-inch.

Enameled, Heavy, Ribbed Frame

Rapid Reading (each thousandth numbered)

These are our heavy type, enameled, ribbed frame Micrometers, especially designed for production work. To withstand hard usage these have a very sturdy frame, yet they are not of excessive weight (frames of the 10, 11 and 12-inch sizes are perforated as illustrated, this to save weight). All Micrometers listed on this page have spindle of extra diameter and have deep throat. These have the same smooth action, high degree of accuracy, and improved adjustment features of all our Micrometers.

For Measuring by Thousandths

Number		Seven-inch Micrometers	Price Each
1917	Plain	Range: 6 to 7 inches.	\$11.00
1927	With Lock Nut	Range: 6 to 7 inches.	12.00
Extra for 6-inch Test Gage. (Supplied only when ordered.)			2.25
		Eight-inch Micrometers	
1918	Plain	Range: 7 to 8 inches.	\$12.00
1928	With Lock Nut	Range: 7 to 8 inches.	13.00
Extra for 7-inch Test Gage. (Supplied only when ordered.)			2.50
		Nine-inch Micrometers	
1919	Plain	Range: 8 to 9 inches.	\$13.00
1929	With Lock Nut	Range: 8 to 9 inches.	14.00
Extra for 8-inch Test Gage. (Supplied only when ordered.)			2.75
		Ten-inch Micrometers	
191-10	Plain	Range: 9 to 10 inches.	\$14.00
192-10	With Lock Nut	Range: 9 to 10 inches.	15.00
Extra for 9-inch Test Gage. (Supplied only when ordered.)			3.00
		Eleven-inch Micrometers	
191-11	Plain	Range: 10 to 11 inches.	\$15.00
192-11	With Lock Nut	Range: 10 to 11 inches.	16.00
Extra for 10-inch Test Gage. (Supplied only when ordered.)			3.25
		Twelve-inch Micrometers	
191-12	Plain	Range: 11 to 12 inches.	\$16.00
192-12	With Lock Nut	Range: 11 to 12 inches.	17.00
Extra for 11-inch Test Gage. (Supplied only when ordered.)			3.50
Ratchet Stop Cap on Any of Above Micrometers, Extra			.50

Packing: One only in hinged wooden box with clasp.

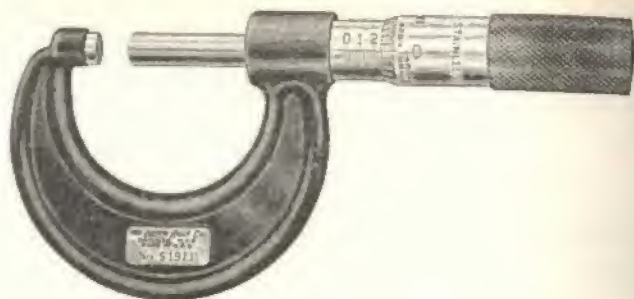
Weight each: 7, 8, 9, 10, 11, and 12-inch. 3½, 4¼, 5¼, 5¾, 7, 7¾ lbs.

Notes: Above Type of Micrometers in 1 to 6-inch Sizes—See page 157.

Above Micrometers in Stainless Steel—See pages 150-A and 150-B.

Metric—Above Micrometers can be supplied in Metric at prices same as corresponding sizes in inches. Specify by suffix "M" as "1917M," etc.

ROSE TOOLS, INC.



Stainless Steel Micrometer Calipers

**Thimble, Sleeve and Hub Are Rust and Stain Proof,
Being of Stainless Steel
Enameled, Heavy, Ribbed Frame**

**Rapid Reading (each thousandth numbered)
In Twelve Sizes, Giving Range 0 to 12 Inches**

These are the popular, enameled type Micrometers for production work, exactly same as the 1900 Series, pages 156 to 159, except having thimble, sleeve and hub of Genuine Stainless Steel. The stainless feature is very valuable in certain industries and under some climatic conditions, as it keeps the reading parts free of rust and stain, easy to read accurately, and prolongs the life of the tool.

In these, as in our other Micrometers, the anvil and spindle are of finest quality tool steel, properly hardened, wear resisting. The spindles are of greater diameter and throats deeper than in our other types. The sturdy, ribbed frames withstand hard use, yet are not of excessive weight. In sizes from 0 to 9-inch the frames are of the type pictured above. In the 10, 11 and 12-inch sizes the frames are of the perforated pattern, illustrated bottom page 158.

These Micrometers have the same smooth action, high degree of accuracy, and improved adjustment features of our No. 1900 Series.

Listings of

LUFKIN Stainless Steel Micrometer Calipers

(For description see page 159-A)

For Measuring by Thousandths

NUMBER			PRICE, EACH
One-Inch Micrometers			
S-1911	Plain.....	Range: 0 to 1 inch.	\$ 7.25
S-1921	With Lock Nut.....	Range: 0 to 1 inch.	8.25
Two-Inch Micrometers			
S-1912	Plain.....	Range: 1 to 2 inches.	\$ 8.00
S-1922	With Lock Nut.....	Range: 1 to 2 inches.	9.00
Three-Inch Micrometers			
S-1913	Plain.....	Range: 2 to 3 inches.	\$ 8.75
S-1923	With Lock Nut.....	Range: 2 to 3 inches.	9.75
Four-Inch Micrometers			
S-1914	Plain.....	Range: 3 to 4 inches.	\$ 9.50
S-1924	With Lock Nut.....	Range: 3 to 4 inches.	10.50
Five-Inch Micrometers			
S-1915	Plain.....	Range: 4 to 5 inches.	\$10.25
S-1925	With Lock Nut.....	Range: 4 to 5 inches.	11.25
Six-Inch Micrometers			
S-1916	Plain.....	Range: 5 to 6 inches.	\$11.00
S-1926	With Lock Nut.....	Range: 5 to 6 inches.	12.00
Seven-Inch Micrometers			
S-1917	Plain.....	Range: 6 to 7 inches.	\$12.00
S-1927	With Lock Nut.....	Range: 6 to 7 inches.	13.00
Eight-Inch Micrometers			
S-1918	Plain.....	Range: 7 to 8 inches.	\$13.00
S-1928	With Lock Nut.....	Range: 7 to 8 inches.	14.00
Nine-Inch Micrometers			
S-1919	Plain.....	Range: 8 to 9 inches.	\$14.00
S-1929	With Lock Nut.....	Range: 8 to 9 inches.	15.00
Ten-Inch Micrometers			
S-191-10	Plain.....	Range: 9 to 10 inches.	\$15.00
S-192-10	With Lock Nut.....	Range: 9 to 10 inches.	16.00
Eleven-Inch Micrometers			
S-191-11	Plain.....	Range: 10 to 11 inches.	\$16.00
S-192-11	With Lock Nut.....	Range: 10 to 11 inches.	17.00
Twelve-Inch Micrometers			
S-191-12	Plain.....	Range: 11 to 12 inches.	\$17.00
S-192-12	With Lock Nut.....	Range: 11 to 12 inches.	18.00
Ratchet Stop Cap on Any of Above Micrometers, Extra.....			.50

Packing: One in a box

Weight each: 1, 2, 3, 4, 5 and 6-inch—7, 9, 12, 19, 22 and 27 ozs.

7, 8, 9, 10, 11 and 12-inch—3¼, 4¼, 5¼, 5¾, 7, 7¾ lbs.

NOTES: Above Micrometers for Measuring to Ten-Thousandths Inch—Furnished in 1 to 6-inch sizes at \$1.75 extra each. Specify by suffix "V," as "S-1911V," etc.

Test Gages for Above Micrometers—For prices see pages 157 and 159.

1800 Series Micrometers in Stainless Steel

These square type, medium weight, enameled frame Micrometers, in sizes 1 to 6-inch as shown pages 152 to 155, can also be furnished with stainless steel thimble, sleeve and hub. Prices exactly same as S-1900 Series shown above.

ROSE TOOLS, INC. 1811, etc.

Micrometer Caliper Sets in Wood Cases

The Micrometer Caliper Sets listed on page 161, are supplied with Cases as here illustrated. These wood Cases are solidly built and well finished. They have hinged cover and clasp and they nicely accommodate the Micrometers and the Test Gages.



Set No. 184A. 0 to 3-inch

(Similar Case is supplied with the other 0 to 3-inch Sets)



Set. No. 194C. 0 to 6-inch

(Similar Case is supplied with the other 0 to 6-inch Sets)

Micrometer Caliper Sets in Wood Cases

(Sets illustrated and cases described page 160)

All Have Rapid Reading (each thousandth numbered)

All Are for Measuring by Thousandths

0 to 3-inch Sets

Enameled, Medium Weight, Ribbed Frame

Set No.			Price, per Set	
			With Test Gages	Without Test Gages
181A	Plain	1811-1"; 1812-2"; 1813-3".	\$27.25	\$25.00
182A	With Lock Nut	1821-1"; 1822-2"; 1823-3".	30.25	28.00
183A	With Ratchet Stop	1831-1"; 1832-2"; 1833-3".	28.75	26.50
184A	With Lock and Ratchet	1841-1"; 1842-2"; 1843-3".	31.75	29.50

Further description of above Micrometers, page 153.

0 to 6-inch Sets

Enameled, Medium Weight, Ribbed Frame

181C	Plain	1811-1"; 1812-2"; 1813-3". 1814-4"; 1815-5"; 1816-6".	\$63.75	\$56.25
182C	With Lock Nut	1821-1"; 1822-2"; 1823-3". 1824-4"; 1825-5"; 1826-6".	69.75	62.25
183C	With Ratchet Stop	1831-1"; 1832-2"; 1833-3". 1834-4"; 1835-5"; 1836-6".	66.75	59.25
184C	With Lock and Ratchet	1841-1"; 1842-2"; 1843-3". 1844-4"; 1845-5"; 1846-6".	72.75	65.25

Further description of above Micrometers, pages 153 and 155.

0 to 3-inch Sets

Enameled, Heavy, Ribbed Frame

191A	Plain	1911-1"; 1912-2"; 1913-3".	\$27.25	\$25.00
192A	With Lock Nut	1921-1"; 1922-2"; 1923-3".	30.25	28.00
193A	With Ratchet Stop	1931-1"; 1932-2"; 1933-3".	28.75	26.50
194A	With Lock and Ratchet	1941-1"; 1942-2"; 1943-3".	31.75	29.50

Further description of above Micrometers, page 157.

0 to 6-inch Sets

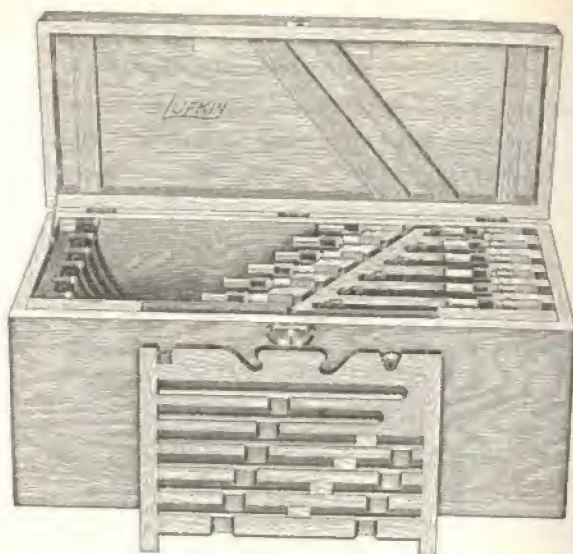
Enameled, Heavy, Ribbed Frame

191C	Plain	1911-1"; 1912-2"; 1913-3". 1914-4"; 1915-5"; 1916-6".	\$63.75	\$56.25
192C	With Lock Nut	1921-1"; 1922-2"; 1923-3". 1924-4"; 1925-5"; 1926-6".	69.75	62.25
193C	With Ratchet Stop	1931-1"; 1932-2"; 1933-3". 1934-4"; 1935-5"; 1936-6".	66.75	59.25
194C	With Lock and Ratchet	1941-1"; 1942-2"; 1943-3". 1944-4"; 1945-5"; 1946-6".	72.75	65.25

Further description of above Micrometers, page 157.

Notes: Test Gages—Supplied with all above sets unless otherwise specified.
Micrometers Measuring to Ten-thousandths Inch—Any of the above sets can be so supplied at extra charge of \$5.25 on sets of three, \$10.50 on sets of six. Specify by suffix "V" as "Set No. 181V-A," etc.
Metric Micrometers—Any of above sets can be so supplied at price same as corresponding sets in inches. Specify by suffix "M" as "Set No. 181M-A," etc.
Other Sets of Micrometer Calipers—See page

ROSE TOOLS, INC.



Micrometer Caliper Sets in Wood Cases

On this page are listed sets of larger Micrometers (6 to 12-inch); also larger sets (0 to 12-inch).

The case supplied with each of these sets is solidly built of oak, well finished, and fitted with a hinged cover and good lock. The test gage rack, also illustrated above, fits into a compartment in the front of the case.

All Have Enameled, Heavy, Ribbed Frame

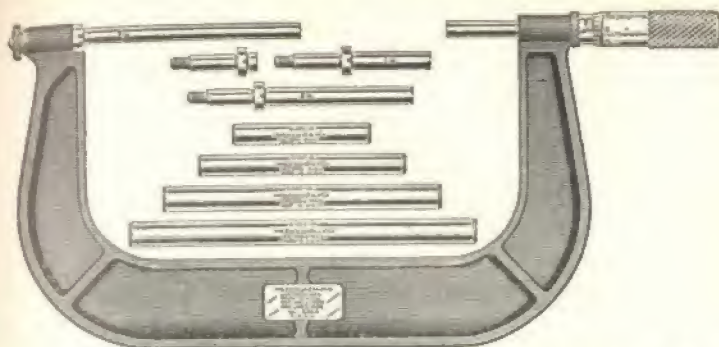
All Have Rapid Reading (each thousandth numbered)

All Are for Measuring by Thousandths

		6 to 12-inch Sets		Price, per Set	
Set No.				With Test Gages	Without Test Gages
191D	Plain. 1917, 7"; 1918, 8"; 1919, 9";				
	191-10, 10"; 191-11, 11"; 191-12, 12".....			\$104.25	\$ 87.00
	192-10, 10"; 192-11, 11"; 192-12, 12".....			110.25	93.00
Ratchet Stop on above Micrometers.....		Extra per set, \$3.00			
		0 to 12-inch Sets			
191E	Plain. 1911, 1"; 1912, 2"; 1913, 3"; 1914, 4";				
	1915, 5"; 1916, 6"; 1917, 7"; 1918, 8"; 1919, 9";				
192E	With Lock Nut. 1921, 1"; 1922, 2"; 1923, 3"; 1924, 4";			\$164.00	\$139.25
	1925, 5"; 1926, 6"; 1927, 7"; 1928, 8"; 1929, 9";				
	192-10, 10"; 192-11, 11"; 192-12, 12".....			176.00	151.25
Ratchet Stop Cap on above Micrometers.....		Extra per set, \$6.00			

For further description of Micrometers contained in Sets listed on this page, see pages 157 and 159.

NOTES: Test Gages—Supplied with all above sets unless otherwise specified.
Metric—Above Micrometers can be supplied in Metric at prices same as corresponding sets in inches. Specify by suffix "M" as "Set No. 191M-D," etc.
Other Sets of Micrometer Calipers—See page 161.



Micrometer Calipers with Interchangeable Anvils

(PATENTED)

0 to 4-inch.

1 to 4-inch.

2 to 6-inch.

Enameled, Medium Weight, Ribbed Frame

Rapid Reading (each thousandth numbered)

These Micrometers are designed particularly for garage and machine shop work. They have a wide range of measurement, made possible by a set of interchangeable anvils. These anvils are quickly and easily changed and are securely held with a knurled nut. In addition to having our standard adjustment features, these Micrometers have each anvil equipped with an adjusting nut to maintain its individual length.

For Measuring by Thousandths

For Measuring by Thousandths			Price, Each	
Number			With Test Gages	Without Test Gages
0 to 4-inch Micrometers				
824AX	With Lock Nut.....	Range: 0 to 4 inch.	\$21.75	\$18.00
844AX	With Lock Nut and Ratchet Stop.....	Range: 0 to 4 inch.	22.25	18.50
1 to 4-inch Micrometers				
824A	With Lock Nut.....	Range: 1 to 4 inch.	\$20.75	\$17.00
844A	With Lock Nut and Ratchet Stop.....	Range: 1 to 4 inch.	21.25	17.50
2 to 6-inch Micrometers				
826A	With Lock Nut.....	Range: 2 to 6 inch.	\$26.50	\$20.00
846A	With Lock Nut and Ratchet Stop.....	Range: 2 to 6 inch.	27.00	20.50

Metric Micrometer Calipers with Interchangeable Anvils

25 to 100 MM.

50 to 150 MM.

Enameled, Medium Weight, Ribbed Frame

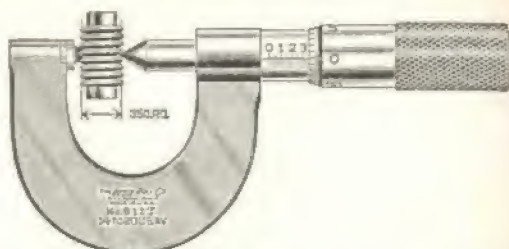
For Measuring by Hundredths of a Millimeter

824A-M	With Lock Nut.....	Range: 25 to 100 mm.	\$20.75	\$17.00
844A-M	With Lock Nut and Ratchet.....	Range: 25 to 100 mm.	21.25	17.50
826A-M	With Lock Nut.....	Range: 50 to 150 mm.	26.50	20.00
846A-M	With Lock Nut and Ratchet.....	Range: 50 to 150 mm.	27.00	20.50

Packing: One only in hinged wooden box with clasp

Weights: 22, 30 and 38 ozs. each, respectively

NOTES: Test Gages—Supplied with all above Micrometers unless otherwise specified.
Directions for Adjusting All Above Micrometers—ROSE TOOLS, INC.



Screw Thread Micrometer Calipers

(PATENTED)

One-inch.

Two-inch.

Full Finished Frame

Rapid Reading (each thousandth numbered)

Screw Thread Micrometers are used for measuring screw threads on the Pitch Diameter. These are of the same general construction as our regular full finished Micrometers, and have the same improved adjustment features.

The spindle and anvil ends are shaped to conform to the standard angle of threads for which they are selected. At a direct reading these Micrometers give the Pitch Diameter, which equals the outside basic diameter less the depth of one thread. All are plain, i.e., without lock nut or ratchet stop.

Always Specify Range of Threads in Addition to Stock Number.

For Measuring by Thousandths

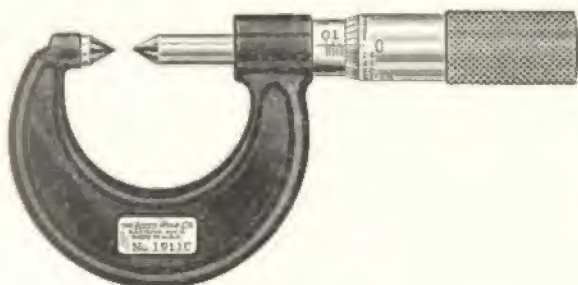
Number	Range of Threads Per Inch	Capacity	Form of Thread	Price Each
611T	8-13 Threads	1-inch	V or U. S. Standard	\$12.00
611T	14-20 Threads	1-inch	V or U. S. Standard	12.00
611T	22-30 Threads	1-inch	V or U. S. Standard	12.00
611T	32-40 Threads	1-inch	V or U. S. Standard	12.00
612T	4½-7 Threads	2-inch	V or U. S. Standard	14.50
612T	8-13 Threads	2-inch	V or U. S. Standard	14.50
612T	14-20 Threads	2-inch	V or U. S. Standard	14.50
612T	22-30 Threads	2-inch	V or U. S. Standard	14.50

Swivel Anvils are standard and regularly furnished with all above Micrometers. Fixed Anvils are supplied when specified; price the same.

Test Gage—A 1-inch Test Gage is furnished with each 2-inch Micrometer.

Tables of Pitch Diameters and Other Screw Thread Data—See Pages 243 to 246.

Packing: One in a box
Weight each: 1-inch 7 ozs.; 2-inch 10 ozs.



Thread Comparator Micrometer Caliper

(PATENTED)

Enameled, Heavy, Ribbed Frame
Rapid Reading (each thousandth numbered)

This Micrometer has many uses, although it will not measure the actual diameter of a V thread. It is especially suitable for making quick comparisons in cutting screw threads, also for measuring in small grooves or recesses where a regular Micrometer could not be used.

The anvil and spindle faces are conical, with points about $\frac{1}{64}$ th inch flat rather than sharp. The Micrometer is at zero when these points are in contact.

For Measuring by Thousandths

Number		Price, Each
1911C	Plain.....Range: 0 to $\frac{1}{8}$ inch.	\$7.00

Packing: One in a box.

Weight each: 7 ounces



Plush-Lined Leather Cases for Micrometer Calipers

These Cases are the best protection for Micrometers and present a very fine appearance. They exclude dust and grit and save the Micrometer also from scratches and all such damage as is due to its coming in contact with other tools, etc.

These Cases (or boxes) are covered with black, seal-grain, genuine leather. They are hinged and have slide clasp. The construction is rigid, edges square, and corners rounded. The inside is lined with black plush, and has compartments for the tool and its adjusting wrench. The 2-inch size has compartment also for test gage.

Always Specify Plush-Lined Case

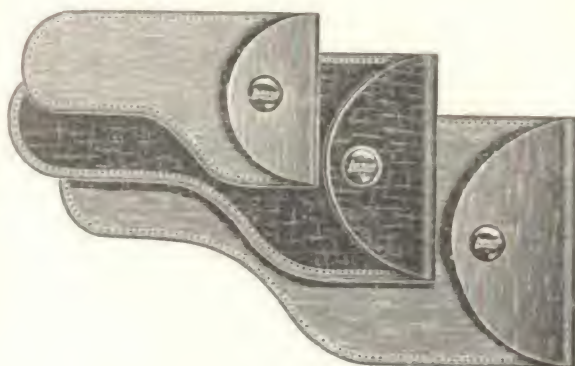
Always Specify 1-inch or 2-inch

Plush-Lined Case for 1-inch Micrometers Price, each \$1.25
(Accommodates all types)

Plush-Lined Case for 2-inch Micrometers Price, each 1.60
(Accommodates all types except heavy frame No. 1912 series)

Weight each: 1-inch 4 ozs.

2-inch 5 ozs.



Soft Leather Cases for Micrometer Calipers

These Soft Leather Cases are light weight and flexible. Therefore they are suitable for pocket use as well as for containing the tool when it is lying about. They protect it from dust, grit, etc., on the bench and in the pocket.

They have sewed edges and are equipped with snap fastener.

Always Specify Soft Leather Case

*Also Specify Type of Micrometer To Be Fitted
(On this point see note below)*

Soft Leather Case for Half-Inch Micrometers	Price, each	\$0.50
Soft Leather Case for One-Inch Micrometers	Price, each	.50
Soft Leather Case for Two-Inch Micrometers	Price, each	.50

NOTE:

"One-Inch" Case is made in two sizes:

One of these fits 600 and 1600 Series;
the other fits 1800 and 1900 Series Micrometers.

"Two-Inch" Case is made in two sizes:

One of these fits 600, 1600 and 1800 Series;
the other fits 1900 Series Micrometers.

ROSE TOOLS, INC.



Micrometer Heads

(PATENTED)

Half-inch.

One-inch.

Rapid Reading (each thousandth numbered)

These Heads are readily attached to machines, tools, special gages, etc., and are used where measurements with micrometer accuracy are required.

Our Micrometer Heads are adjustable, an exclusive and valuable feature. They have the same improved adjustment features, for wear, tension, etc., as our complete Micrometers. Adjusting wrench is furnished with each Head.

Half-inch Micrometer Heads

Number		For Measuring by Thousandths	Price Each
010	Plain.....	Range: 0 to $\frac{1}{2}$ inch.	\$4.50
030	With Ratchet Stop.....	Range: 0 to $\frac{1}{2}$ inch.	4.50

For Measuring by Ten-thousandths

010V	Plain.....	Range: 0 to $\frac{1}{2}$ inch.	\$6.25
030V	With Ratchet Stop.....	Range: 0 to $\frac{1}{2}$ inch.	6.25

One-inch Micrometer Heads

		For Measuring by Thousandths	
011	Plain.....	Range: 0 to 1 inch.	\$5.50
031	With Ratchet Stop.....	Range: 0 to 1 inch.	5.50

For Measuring by Ten-thousandths

011V	Plain.....	Range: 0 to 1 inch.	\$7.25
031V	With Ratchet Stop.....	Range: 0 to 1 inch.	7.25

NOTE: Lock Nut — Furnished when specified, and without extra charge, on 1-inch and 25-mm Micrometer Heads.

Metric Micrometer Heads

13 MM.

25 MM.

These Heads are metric, otherwise they are same as those above. They are adjustable and adjusting wrench is furnished with each one.

For Measuring by Hundredths of a Millimeter

010M	Plain.....	Range: 0 to 13 mm.	\$4.50
030M	With Ratchet Stop.....	Range: 0 to 13 mm.	4.50
011M	Plain.....	Range: 0 to 25 mm.	5.50
031M	With Ratchet Stop.....	Range: 0 to 25 mm.	5.50

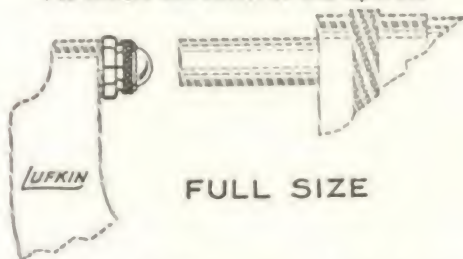
Length lower end of barrel to shoulder: On $\frac{1}{2}$ -inch and 13 mm., is .392 inch (10 mm.).
On 1-inch and 25 mm., is .750 inch (10 mm.).

Diameter of barrel on all above Micrometer Heads is $\frac{1}{4}$ inch (9.5 mm.).

Packing: One in a box

Ball Attachments for Micrometers

Fit Either the Anvil or the Spindle



These make any of our regular Micrometers suitable for measuring tubing walls, or other rounding surfaces. The Ball Attachment is readily applied and removed by the mechanic, and fitting either the anvil or the spindle, two of these Balls can be used together. Diameter of No. 16 and No. 19 Ball is .200 inch; so when used on standard Micrometers always subtract from reading .200 inch for each Ball used. Each Ball fits freely in its retainer, insuring contact with anvil or spindle. For quick identification the retainer of Ball No. 16 is bright, that of Ball No. 19 is mottled.

Ball No. 16 fits all our Micrometers of size one-inch and over excepting the No. 1900 Series (the heavy, ribbed frame type). In other words No. 16 fits all Micrometers having anvil and spindle of diameter .250 inch.

Ball No. 19 fits Micrometers of our No. 1900 Series (the heavy, ribbed frame type). It fits all Micrometers having anvil and spindle of diameter .270 inch.

Number	Price, Each
16 Ball Attachment	\$0.50
19 Ball Attachment	.50

Packing: Six in a box

Height Gage Attachments

(PATENTED)



Either of these Attachments, combined with our No. 680 Series Inside Micrometers, can be used as a Micrometer Height Gage, very useful on jigs, fixtures and in machine construction work. Both are of same size, well proportioned, hardened and in mottled finish. Both are accurately grooved, suitable for use in lining up shafting, etc., and have knurled chuck firmly holding Inside Micrometer Rods in place.

The difference between these two Height Gage Attachments is simply this:

Number 9 is fitted with a hardened stop pin on which the Micrometer Rod rests.

The top of this stop pin is accurately ground to measure 1.500 inch from the base.

Number 9A has hole entirely through, permitting the Micrometer Rod to rest directly on the surface from which measurement is being taken. This one is most suitable for work on cylindrical objects.

Number	Price, Each
9 Height Gage Attachment. With stop pin	\$5.00
9A Height Gage Attachment. With hole through	5.00

Packing: One in a box. Weight each: 12 ounces
NOTE: Inside Micrometers—See pages 168 and 169. ROSE TOOLS, INC.



Inside Micrometer Calipers

(PATENTED)

Our Finest Line, Series No. 680

Valuable, Exclusive Features of the **LUFKIN** No. 680 Line are:

Micrometer Head will measure down as small as $1\frac{1}{2}$ inches.

Measuring Rods are light weight yet very rigid, being of steel tubing, rather than solid.

Measuring Rods can be added to either or both ends of micrometer head. Thus the head is kept central, where mechanic can get the feel most sensitively, adjust length most accurately, and it is also nearest in line of vision, easiest to read precisely.

(Illustration on next page demonstrates these advantages.)

Each Measuring Rod is adjustable for length.

Handle (shown in box above and furnished with Sets 680A, 680B and 6801D) also maintains that perfect balance so essential to accuracy, because it may be attached anywhere along the head or the extension rods.

Each measuring rod is marked with its length. Rods are attached to head by removing, with the frictional wrench supplied, the hardened end or anvil of the head. When these sets leave the factory each extension rod is adjusted to measure correctly overall with the head. Should the hardened caps of the head show wear, a method of adjustment is provided (slip the wrench over the graduated sleeve and rotate it in either direction in the thimble until zero line coincides with reading on the hub). As this would affect the measurement when extension rods are used, each rod is individually adjustable, by means of a hardened and ground plug at one end, which can be turned either into or out of the rod.

Inside Micrometer Calipers for Measuring by Thousandths of an Inch

Number		Price Each
680A	Inside Micrometer. Range: $1\frac{1}{2}$ to 8 inches. With 5 Measuring Rods. Movement of Screw: $\frac{1}{2}$ inch.....	\$12.00
680B	Inside Micrometer. Range: $1\frac{1}{2}$ to 12 inches. With 8 Measuring Rods. Movement of Screw: $\frac{1}{2}$ inch.....	15.00
681C	Inside Micrometer. Range: 4 to 24 inches. With 7 Measuring Rods. Movement of Screw: 1 inch.....	18.00
681D	Inside Micrometer. Range: 4 to 32 inches. With 8 Measuring Rods. Movement of Screw: 1 inch.....	20.00
681K	Inside Micrometer. Range: 4 to 40 inches. With 10 Measuring Rods. Movement of Screw: 1 inch.....	24.00
6801D	Inside Micrometer. Range: $1\frac{1}{2}$ to 32 inches. With 10 Measuring Rods. Movement of Screw: $\frac{1}{2}$ and 1 inch (two heads).....	30.00

Packing: Each Set in nicely finished wooden box as illustrated above.

Weight each: 6 $\frac{1}{2}$, 12, 27, 39, 48 and 56 ounces respectively

Extra Extension Rods, to increase the range of a Set, can be supplied.

Corresponding Metric Inside Micrometers—See Page 169.

Inside Micrometer Calipers (Continued)



Checking Inside Diameter of 30-Inch Cylinder Liner for a Marine Diesel Engine

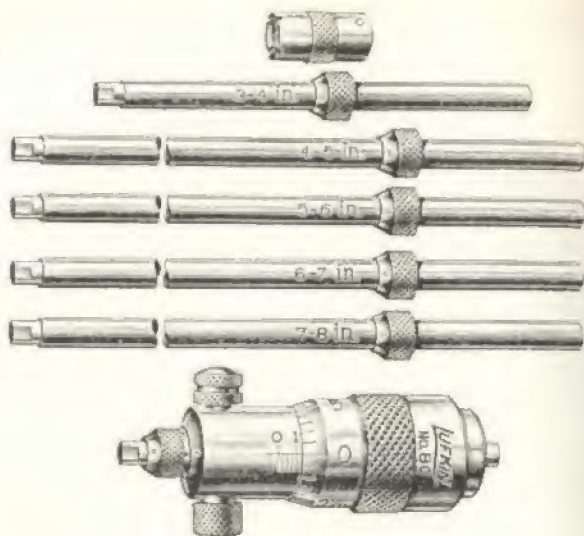
Using Inside Micrometer Number **681D**, built up with extension rod at both ends. Note that Micrometer Head is central, where it is easiest to get proper feel and to adjust Micrometer to size, and that reading point is directly in the line of vision where it is easiest to see and to read closely.

Metric Inside Micrometer Calipers For General Description, See Page 168 For Measuring by Hundredths of a Millimeter

Number		Price Each
680A-M	Inside Micrometer. Range: 40 to 200 mm. With 6 Measuring Rods. Movement of Screw: 13 mm.....	\$12.00
680B-M	Inside Micrometer. Range: 40 to 300 mm. With 8 Measuring Rods. Movement of Screw: 13 mm.....	15.00
681C-M	Inside Micrometer. Range: 100 to 600 mm. With 7 Measuring Rods. Movement of Screw: 25 mm.....	18.00
681D-M	Inside Micrometer. Range: 100 to 800 mm. With 8 Measuring Rods. Movement of Screw: 25 mm.....	20.00
681K-M	Inside Micrometer. Range: 100 to 1000 mm. With 10 Measuring Rods. Movement of Screw: 25 mm.....	24.00
6801D-M	Inside Micrometer. Range: 40 to 800 mm. With 10 Measuring Rods. Movement of Screw: 13 and 25 mm. (two heads).....	30.00

Packing: Each Set in nicely finished box.
Weight each: 8½, 12, 27, 39, 48 and 50 lbs. respectively.

ROSE TOOLS, INC.



No. 80A

Inside Micrometer Calipers

(PATENTED)

Our Popular Priced Line, Series No. 80

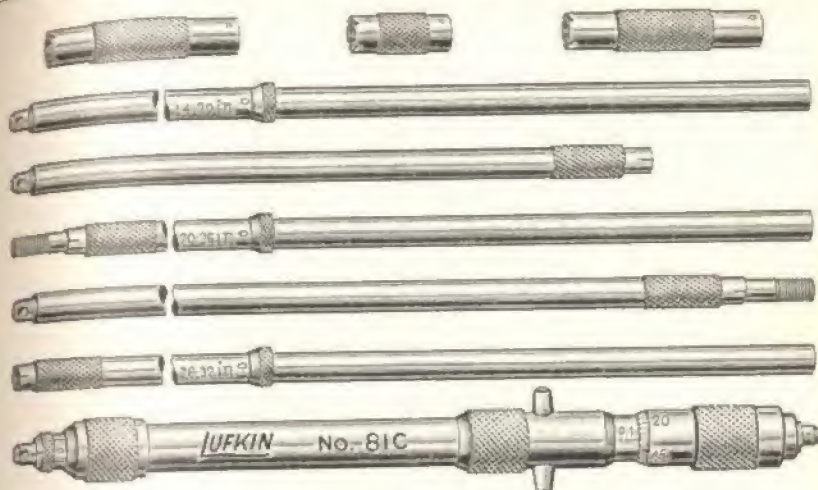
While designed for mechanics not requiring various features which are offered only in our No. 680 Series, these Inside Micrometers have many uses, among them the taking of internal diameters of cylinders and rings, internal measuring of parallel surfaces, setting and checking of calipers, comparing gages, etc.

On all these Micrometers the range is obtained by use of extension rods and the collars detailed below. Each rod is marked with the range of the Micrometer when used with that rod. Example: With the 3 to 4 inch rod the movement allows measurements from 3 to $3\frac{1}{2}$ inches. Adding the $\frac{1}{2}$ inch collar increases the range with that same rod from $3\frac{1}{2}$ to 4 inches. Use of collars applies to all extension rods. The zero mark on head, collar and rod should be in alignment in assembling the tool for use. When assembled, the shoulder on the rod fits firmly against the head or collar. Provision is made for adjusting tension and taking up wear on the screw. Contact points of the rods are adjustable for maintaining their individual lengths. All contact points are hardened and ground.

In No. 81C, which has the large range, (8 to 32 inches), the extension rods instead of being $\frac{5}{32}$ inch solid, are of $\frac{5}{16}$ inch steel tubing, making this Micrometer, even when fully extended, extra rigid yet of moderate weight.

In Nos. 80A and 80B, a Handle (furnished as an extra and only when specified) can be inserted in the head by removing the knurled screw opposite the knurled and grooved extension rod lock screw.

FOR LISTINGS SEE NEXT PAGE



No. 81C

Inside Micrometer Calipers

(Series No. 80, Continued)

Listings of Series No. 80 Inside Micrometers

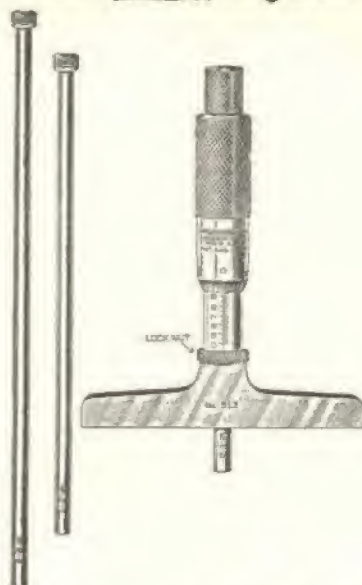
(For description see page 169-A)

Inside Micrometer Calipers for Measuring by Thousandths of an Inch

Number		Price, each
80A	Inside Micrometer. Range: 2 to 8 inches. With 6 rods and $\frac{1}{2}$ inch collar. Movement of Screw: $\frac{1}{2}$ inch.....	\$7.25
	Plush-lined Case for above. (Supplied only when ordered).....	1.75
	Handle for above..... (Supplied only when ordered).....	.75
80B	Inside Micrometer. Range: 2 to 12 inches. With 10 rods and $\frac{1}{2}$ inch collar. Movement of Screw: $\frac{1}{2}$ inch.....	8.50
	Plush-lined Case for above. (Supplied only when ordered).....	2.75
	Handle for above..... (Supplied only when ordered).....	.75
81C	Inside Micrometer. Range: 8 to 32 inches. With 4 rods and one 1-inch and two 2-inch collars. Movement of Screw: 1 inch.....	10.25
	Plush-lined Case for above. (Supplied only when ordered).....	4.00
81D	Inside Micrometer. Range: 2 to 32 inches. Consists of Micrometers 80A and 81C.....	17.50
	Plush-lined Case for above. (Supplied only when ordered).....	5.00
	Handle for above..... (Supplied only when ordered).....	.75

Weight each: 80A, 5 ozs.; 80B, 8 ozs.; 81C, 4 $\frac{1}{2}$ lbs.; 81D, 1 $\frac{1}{2}$ lbs.

Packing: One Set in ROSE TOOLS, INC.



Micrometer Depth Gages

(PATENTED)

Oblong Base—3-inch—5-inch. Lock Nut. One-inch Movement. Rapid Reading (each thousandth numbered)

Designed for measuring the depth of holes, slots, etc., with micrometer accuracy. Each Gage is provided with three rods, which permit measurements from zero to three inches by thousandths. Rods are approximately $\frac{5}{16}$ inch in diameter.

The rods are inserted through a hole in the screw and are securely fastened by means of a knurled cap. To compensate for wear, each rod is equipped with an adjusting nut to maintain its individual length. The end of each rod is hardened and lapped.

Both the 3-inch and the 5-inch base are hardened and ground, are $\frac{15}{16}$ inch wide, and have knurled surface on top at both sides of head, affording the firm hold essential for accurate measurements.

An exclusive feature in our Micrometer Depth Gages is the patent lock nut locking the rod at any point, permitting the reading to be maintained.

For Measuring by Thousandths of an Inch

Number			Price, Each
513	Micrometer Depth Gage.....	3-inch Base. Range: 0 to 3 inch.	\$10.50
515	Micrometer Depth Gage.....	5-inch Base. Range: 0 to 3 inch.	13.50

For Measuring by Hundredths of a Millimeter

513M	Metric Micrometer Depth Gage..	3-inch Base. Range: 0 to 75 mm.	\$10.50
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Ratchet Stop—Supplied on any above when ordered. Extra each..... .50

Packing: One in hinged wooden box with clasp, Wt. Each: No. 513.12 oz. No. 515.15 oz.

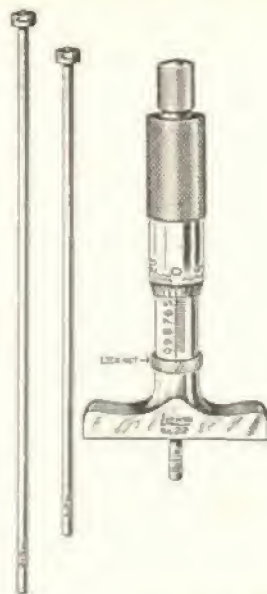
Extra Rods for Micrometer Depth Gages Nos. 513 and 515

3 to 4 inch Rod.. Each \$1.50 4 to 5 inch Rod.. Each \$1.60 5 to 6 inch Rod.. Each \$1.70

NOTE: To give Range 0 to 6 inch, both Nos. 513 and 515 can be furnished with the 3 additional rods detailed immediately above. When wanted, Specify 0 to 6 inch.

These large sets complete are also packed in hinged wooden box with clasp.

No. (513 0 to 6 inch).....	\$15.80 each
No. (515 0 to 6 inch).....	18.80 each



Micrometer Depth Gauge

(PATENTED)

Oblong Base, 2-inch.

Lock Nut.

One-inch Movement.

Rapid Reading (each thousandth numbered)

This Micrometer Depth Gauge is particularly adapted for use in small places and in very small holes, slots, etc. Diameter of the measuring rods is but $\frac{3}{32}$ inch; length of the oblong base is but 2 inches, and its width $\frac{15}{32}$ inch. Base is hardened and ground, and its form assures firm hold.

Three rods are furnished with this Gauge, giving measurements from zero to three inches by thousandths. The rods are inserted through a hole in the screw and are securely fastened by the knurled cap. To compensate for wear, each rod is equipped with an adjusting nut to maintain its length. The end of each rod is hardened and lapped.

This Gauge has patent lock nut which permits the reading to be maintained.

For Measuring by Thousandths

Number		Price Each
212	Micrometer Depth Gauge 2-inch Base. Range: 0 to 3 inch.	\$9.00
	Ratchet Stop—Supplied when ordered. Extra Each.....	.50

Packing: One only in hinged wooden box with clasp.

Weight each: 14 oz ROSE TOOLS, INC.



No. 510



No. 512

Depth Gages

These are very handy Depth Gages for tool and die makers, machinists and others.

All heads are of steel, case-hardened, designed to fit the hand nicely, and well finished. Heads give good range as they are $2\frac{1}{2}$ inches wide across the base and $\frac{1}{8}$ inch thick (approximately 63x3 millimeters). Heads are deeply notched on one side so graduations can be most easily read.

All blades are tempered, machine divided, and fitted in slot of head. They can be securely clamped at any point by means of knurled nut and tension spring. They are removable for use separately as scales. These are the only Depth Gages having graduations on the round rod.

Number		Price Each
510	6-inch Depth Gage. With Narrow ($\frac{3}{16}$ inch) Spring Tempered Rule. Rule marked one side 32nds, other side 64ths inch. (Rule No. 2310)...	\$1.50
512	6-inch Depth Gage. With Round, Graduated Rod. Rod, while round, is graduated, a distinctive feature. It is tempered and being but $\frac{1}{10}$ inch in diameter, gives access to small holes. Rod is graduated 4 inches to 32nds. Measurement is arrived at without the additional use of a rule, making this the ideal tool of its kind.....	1.50
510M	15-centimeter Depth Gage. With 5 mm. wide Spring Tempered Rule. Rule marked one side millimeters, other side $\frac{1}{2}$ mm. (Rule No. 2300M)	1.50
512M	15-centimeter Depth Gage. With Round, Graduated Rod. Rod is tempered and being approximately $2\frac{1}{2}$ millimeters in diameter, gives access to small holes. Rod is graduated 10 centimeters to millimeters. Measurement is arrived at without the additional use of a rule.....	1.50

Packing: One in a box. Weight each: 2 ounces

NOTE: Micrometer Depth Gages—See pages 170 and 171.



No. 511



No. H-511

Depth Gages

Combination Depth Gage and Hook Rule

These are very handy Depth Gages for tool and die makers, machinists and others. All have degree lines on head, to which rule can be swung and set, serving as a Protractor for some kinds of work.

All heads are of steel, case-hardened, designed to fit the hand nicely, and well-finished. Heads give good range as they are $2\frac{1}{2}$ inches wide across the base and $\frac{1}{4}$ inch thick (approximately 63x3 millimeters). Heads are deeply notched on one side so graduations can be most easily read.

All blades (rules) are tempered, machine divided, and fitted in slot of head. They can be securely clamped at any point by means of knurled nut and tension spring. They are removable for use separately as scales.

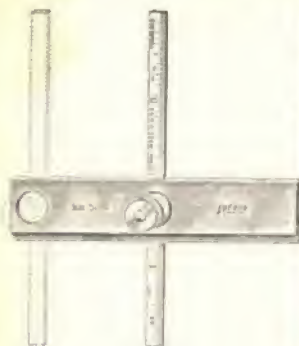
Number H-511 is same as No. 511 except rule has hook, i.e., is a standard narrow pattern Hook Rule. This makes a convenient tool for certain kinds of calipering work. It serves well as a Depth Gage also, the hook being readily detached by giving eccentric stud a half turn.

Number		Price Each
511	6-inch Depth Gage. With Degree Lines on Head. With Narrow ($\frac{3}{16}$ inch) Spring Tempered Rule. Rule marked one side 32nds, other side 64ths inch. (Rule No. 2310). One side of head is marked, both right and left, with 30, 45 and 60-degree lines, to which rule can be swung and set, making a simple protractor suitable for certain classes of work	\$2.25
H-511	6-inch Combination Depth Gage and Hook Rule. With Degree Lines on Head, as described above. With $\frac{5}{16}$ inch wide Spring Tempered Rule with Hook. Rule marked one side 32nds, other side 64ths inch. (Rule No. H-2310)	2.75
511M	15-centimeter Depth Gage. With Degree Lines on Head, as described above. With 5 mm., wide Spring Tempered Rule. Rule marked one side millimeters, other side $\frac{1}{2}$ mm. (Rule No. 2300M)	2.25

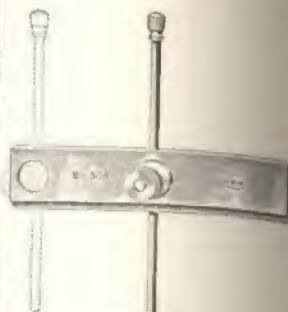
Packing: One in a box. Weight each: 2 ounces

NOTE: Micrometer Depth Gages—See pages 170 and 171.

ROSE TOOLS, INC.



No. 509A



No. 508A

Depth Gages

These Depth Gages are for use where a wider base is necessary to properly carry over the space to be measured. They have bases $3\frac{1}{2}$ inches, or 6 inches, or 10 inches wide, a range covering almost any requirement.

The narrow steel rules and the round rods slide in a groove properly fitted for them and can be securely clamped at any point by means of a knurled nut and tension spring. The rules are but $\frac{3}{16}$ inch wide, the rods $\frac{1}{10}$ inch in diameter, and all are tempered. All can be used in two positions, either at center or end of the base, most suitable for taking difficult measurements. The measuring edge of the base is beveled to give a line contact with the surface of the work being gaged.

The machine divided steel rules are graduated one side 32nds, other side 64ths inch (Rule No. 2310). Removed from base they can be used separately as scales. The round rod of Gages 508A, B and C is not graduated.

Depth Gages with Graduated Steel Rule

Number			Price Each
509A	With $3\frac{1}{2}$ -inch Base.	With 4-inch Rule.....	\$1.50
509B	With $3\frac{1}{2}$ -inch Base.	With 6-inch Rule.....	1.80
509C	With 6 -inch Base.	With 4-inch Rule.....	1.80
509D	With 6 -inch Base.	With 6-inch Rule.....	2.10
509E	With 10 -inch Base.	With 6-inch Rule.....	2.70

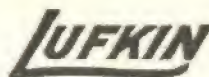
Depth Gages with Round Rod

508A	With $3\frac{1}{2}$ -inch Base.	With $3\frac{1}{2}$ -inch Rod.....	\$0.90
508B	With 6 -inch Base.	With 6 -inch Rod.....	1.40
508C	With 10 -inch Base.	With 6 -inch Rod.....	1.65

Packing: One in a box

Weight each: with $3\frac{1}{2}$ " base—3 ozs.; 6" base—4 ozs.; 10" base—6 ozs.

NOTES: Metric—Number 509 series Depth Gages can be furnished with metric rule (Rule No. 2300M). Prices same as Gages with corresponding length rule in inches.
Micrometer Depth Gages—See pages 170 and 171.



Combination Squares—Bevel Protractors Combination Sets

(PAGES 176 TO 183)

General Description

These tools have so many and such varied uses as to be almost indispensable to all mechanics in metal working, machinists, pattern makers and others. They consist of a steel rule (or blade) on which slide the square head (or stock), the center head and the protractor head, singly or in sets.

We offer Combination Squares and Combination Sets of two kinds: with square and center heads drop forged and hardened; with square and center heads cast, sometimes known as "not hardened." We catalogue them with blades in all graduations commonly required. Our Squares have many improved features. Accuracy and provisions to insure continued accuracy in use are the first consideration in their design and manufacture.

All blades are tempered. All blades are machine divided, markings being most legible. All heads are nicely enameled. The polished and the enameled parts of all heads are well finished. All heads can be accurately, quickly and securely set at any point along the blade. Blades can easily be entirely removed for use separately as rules. Square heads have square and miter faces, and in all sizes (except the 4-inch standard and No. 135) are equipped with level glass and steel scriber. All protractor heads have level. There is good clearance around all set nuts and over the level glasses. Our Squares handle nicely and present a well balanced, fine appearance. All parts are interchangeable.

Below are mentioned but a few of their many uses.

Combination Squares

These consist of blade with square head, or with square and center heads. They serve as both try and miter squares, and, the blade being adjustable in length by moving the head, they take the place of a whole set of common squares. They are very handy for accurately transferring measurements and for laying out work. Square face of head set flush with end of blade converts the tool into a height gage for ordinary uses, and setting it at desired distance from end of blade makes it a marking gage; so adjusted it will also serve as a depth gage for measuring and squaring in mortises, etc. The scriber is always conveniently at hand. The stock can be used as a simple level, and, with the blade, for squaring and leveling surfaces one with another.

With the center head, centers of all cylindrical work can be determined. The arms of our center heads are ground to equal length and have ends uniformly machined, greatly increasing the range of the tool by giving accurate results on work of large and small diameters.

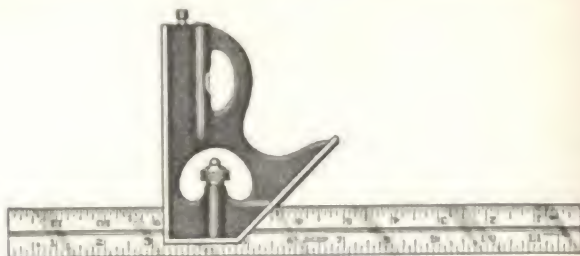
Bevel Protractors

These are the graduated blade fitted with protractor head, single or double type, otherwise known as plain and reversible, i.e., with shoulder extending from one side only or both sides of blade. Our protractor heads are so constructed that the double can be readily converted into the single type, the one tool thus serving all purposes of both styles. The revolving turret is accurately marked with degrees from 0 to 90 right and left. Having two thumb screws, it can be securely set at any angle. All our protractor heads are equipped with level glass.

Combination Sets

These are graduated blade together with square, center and protractor heads, a tool serving all the purposes of the Combination Square and Bevel Protractor. These Combination Sets have more applications in use than any other tool.

ROSE TOOLS, INC.



Combination Squares

Blade with Square Head Only

Level in Head
(4" excepted)

Tempered Blade

WITH CAST HEAD

No. 25	Graduation: No. 4. 8ths, 16ths, 32nds, 64ths inch.
Size: 4-inch	Price, each \$1.50
6-inch	Price, each 1.80
9-inch	Price, each 2.40
12-inch	Price, each 3.00
18-inch	Price, each 3.90
24-inch	Price, each 4.80
No. 25M	Graduation: Metric Only.
No. 25ME	Graduation: Metric & English.
Size: 10-cm	Price, each \$1.50
15-cm	Price, each 1.80
20-cm	Price, each 2.40
30-cm	Price, each 3.00
50-cm	Price, each 3.90
60-cm	Price, each 4.80

WITH DROP FORGED AND HARDENED HEAD

No. 35	Graduation: No. 4. 8ths, 16ths, 32nds, 64ths inch.
Size: 4-inch	Price, each \$2.30
6-inch	Price, each 3.10
9-inch	Price, each 3.40
12-inch	Price, each 4.30
18-inch	Price, each 5.40
24-inch	Price, each 6.30
No. 35M	Graduation: Metric Only.
No. 35ME	Graduation: Metric & English.
Size: 10-cm	Price, each \$2.30
15-cm	Price, each 3.10
20-cm	Price, each 3.40
30-cm	Price, each 4.30
50-cm	Price, each 5.40
60-cm	Price, each 6.30

Nos. 25M and 35M are marked: Three edges in millimeters;
One edge in $\frac{1}{2}$ millimeters.

Nos. 25ME and 35ME are marked: One side $\frac{1}{2}$ millimeters and 32nds inch;
Other side millimeters and 64ths inch.

Packing: One in a box

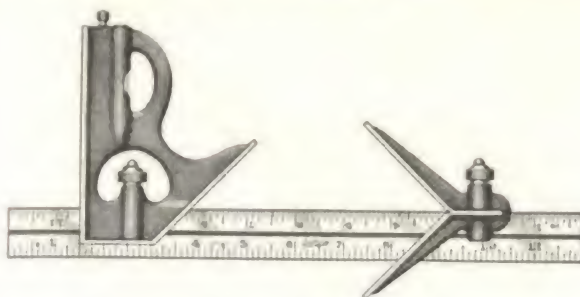
Weight each: No. 25 Series... 4, 6, 10, 17, 22 and 26 ounces.
No. 35 Series... 4, 7, 11, 19, 24 and 28 ounces.

NOTES: Other Graduations Furnished Without Extra Charge on Nos. 25 and 35:

No. 7 (16ths, 32nds, 64ths and 100ths) on all lengths.

No. 16 (32nds, 64ths, 50ths and 100ths) on 12-inch only.

General Description of Combination Squares — See page 175



Combination Squares

Blade with Square and Center Heads

Level in Square Head
(4" excepted)

Tempered Blade

WITH CAST HEADS

No. 25C	Graduation: No. 4.	
	8ths, 16ths, 32nds, 64ths inch.	
Size: 4-inch	Price, each	\$2.10
6-inch	Price, each	2.40
9-inch	Price, each	3.00
12-inch	Price, each	3.60
18-inch	Price, each	4.50
24-inch	Price, each	5.40

No. 25C-M Graduation: Metric Only.

No. 25C-ME Graduation: Metric & English.

Size: 10-cm	Price, each	\$2.10
15-cm	Price, each	2.40
20-cm	Price, each	3.00
30-cm	Price, each	3.60
50-cm	Price, each	4.50
60-cm	Price, each	5.40

WITH DROP FORGED AND HARDENED HEADS

No. 35C	Graduation: No. 4.	
	8ths, 16ths, 32nds, 64ths inch.	
Size: 4-inch	Price, each	\$3.80
6-inch	Price, each	4.60
9-inch	Price, each	5.30
12-inch	Price, each	6.20
18-inch	Price, each	7.30
24-inch	Price, each	8.20

No. 35C-M Graduation: Metric Only.

No. 35C-ME Graduation: Metric & English.

Size: 10-cm	Price, each	\$3.80
15-cm	Price, each	4.60
20-cm	Price, each	5.30
30-cm	Price, each	6.20
50-cm	Price, each	7.30
60-cm	Price, each	8.20

No. 25C-M and **35C-M** are marked: Three edges in millimeters;
One edge in $\frac{1}{4}$ millimeters.

No. 25C-ME and **35C-ME** are marked: One side $\frac{1}{4}$ millimeters and 32nds inch;
Other side millimeters and 64ths inch.

Packing: One in a box

Weight each: **No. 25C Series** . . . 5, 8, 13, 21, 26 and 30 ounces.

No. 35C Series . . . 5, 9, 14, 23, 28 and 32 ounces.

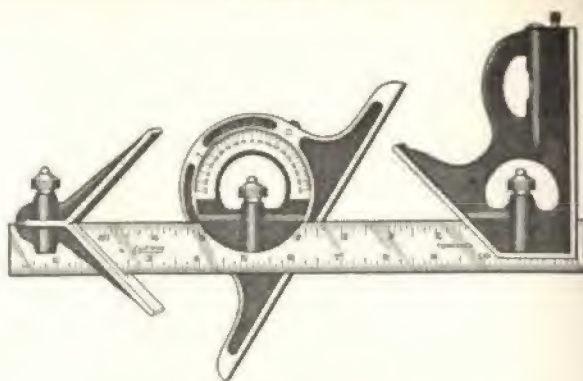
Notes: Other Graduations Furnished Without Extra Charge on **No. 25C** and **35C**:

No. 7 (16ths, 32nds, 64ths and 100ths) on all lengths.

No. 16 (32nds, 64ths, 80ths and 100ths) on 12-inch only.

General Description of Combination Squares—See page 176.

ROSE TOOLS, INC.



Combination Sets

Blade with Square, Center and Protractor Heads

(Protractor head not reversible)

Level in All Square and Protractor Heads

Tempered Blade

WITH CAST HEADS

No. 525	Graduation: No. 4.
	8ths, 16ths, 32nds, 64ths inch.
Size: 9-inch	Price, each \$6.00
12-inch	Price, each 6.60
18-inch	Price, each 7.50
24-inch	Price, each 8.40
No. 525M	Graduation: Metric Only.
No. 525ME	Graduation: Metric & English.
Size: 20-cm	Price, each \$6.00
30-cm	Price, each 6.60
50-cm	Price, each 7.50
60-cm	Price, each 8.40

WITH SQUARE AND CENTER HEADS DROP FORGED AND HARDENED

No. 535	Graduation: No. 4.
	8ths, 16ths, 32nds, 64ths inch.
Size: 9-inch	Price, each \$8.30
12-inch	Price, each 9.20
18-inch	Price, each 10.30
24-inch	Price, each 11.20
No. 535M	Graduation: Metric Only.
No. 535ME	Graduation: Metric & English.
Size: 20-cm	Price, each \$ 8.30
30-cm	Price, each 9.20
50-cm	Price, each 10.30
60-cm	Price, each 11.20

Nos. 525M and 535M are marked: Three edges in millimeters;
One edge in $\frac{1}{8}$ millimeters.

Nos. 525ME and 535ME are marked: One side $\frac{1}{2}$ millimeters and 32nds inch;
Other side millimeters and 64ths inch.

Packing: One in a box

Weight each: No. 525 Series . . . 24, 30, 35 and 39 ounces.

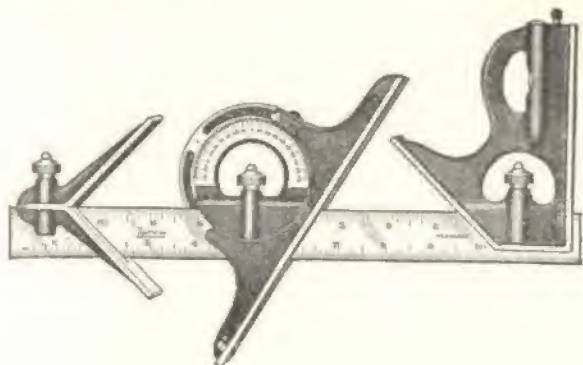
No. 535 Series . . . 26, 32, 37 and 41 ounces.

NOTES: Other Graduations Furnished Without Extra Charge on Nos. 525 and 535:

No. 7 (16ths, 32nds, 64ths and 100ths) on all lengths.

No. 16 (32nds, 64ths, 50ths and 100ths) on 12-inch only.

General Description of Combination Sets — See page 175.



Combination Sets

Blade with Square, Center and Protractor Heads
(Protractor head reversible)

Level in All Square and Protractor Heads

Tempered Blade

WITH CAST HEADS

No. 625	Graduation: No. 4. 8ths, 16ths, 32nds, 64ths inch.	
Size: 9-inch	Price, each	\$7.20
12-inch	Price, each	7.80
18-inch	Price, each	8.70
24-inch	Price, each	9.60

No. 625M Graduation: Metric Only.

No. 625ME Graduation: Metric & English.

Size: 20-cm	Price, each	\$7.20
30-cm	Price, each	7.80
50-cm	Price, each	8.70
60-cm	Price, each	9.60

WITH SQUARE AND CENTER HEADS DROP FORGED AND HARDENED

No. 635	Graduation: No. 4. 8ths, 16ths, 32nds, 64ths inch.	
Size: 9-inch	Price, each	\$ 9.50
12-inch	Price, each	10.40
18-inch	Price, each	11.50
24-inch	Price, each	12.40

No. 635M Graduation: Metric Only.

No. 635ME Graduation: Metric & English.

Size: 20-cm	Price, each	\$ 9.50
30-cm	Price, each	10.40
50-cm	Price, each	11.50
60-cm	Price, each	12.40

No. 625M and 635M are marked: Three edges in millimeters;
One edge in $\frac{1}{4}$ millimeters.

No. 625ME and 635ME are marked: One side $\frac{1}{4}$ millimeters and 32nds inch;
Other side millimeters and 64ths inch.

Packing: One in a box

Weight each: No. 625 Series . . . 27, 34, 39 and 43 ounces.

No. 635 Series . . . 29, 36, 41 and 45 ounces.

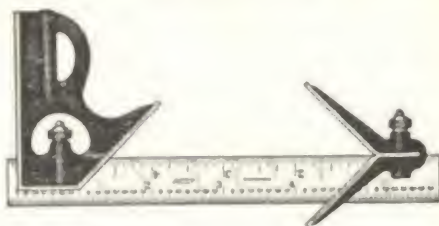
Notes: Other Graduations Furnished Without Extra Charge on Nos. 625 and 635:

No. 7 (16ths, 32nds, 64ths and 100ths) on all lengths.

No. 16 (32nds, 64ths, 50ths and 100ths) on 12-inch only.

General Description of Combination Sets — See page 178.

ROSE TOOLS, INC.



Combination Squares (Junior Size)

Blade with Square Head Only

also

Blade with Square and Center Heads

All Heads Drop Forged and Hardened

Readable Graduations (64ths numbered)

Tempered Blade

These Drop Forged Squares are of same general pattern as our No. 35 and 35C lines but with narrower blade ($\frac{5}{8}$ inch) and with smaller square and center heads than the corresponding length in those lines. These appeal particularly to tool and die makers, pattern makers and others, because of their smaller size and lighter weight.

Readable Graduation, 64ths numbered every 8th division, is another distinctive feature of these "Junior" Squares.

These Combination Squares are made only with 6-inch blade.

Number		Price Each
135	Blade with Square Head only. Length Blade: 6 inches. No. 4 Graduation—8ths, 16ths, 32nds, 64ths inch.....	\$3.50
135C	Blade with Square and Center Heads. Length Blade: 6 inches. No. 4 Graduation—8ths, 16ths, 32nds, 64ths inch.....	4.40

Packing: One in a box

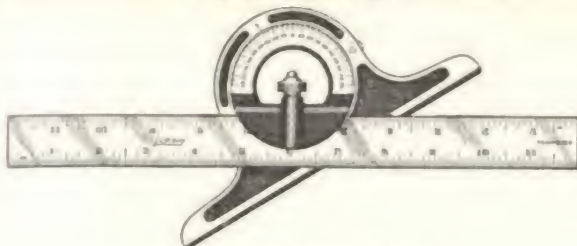
Weight each: No. 135—4 ozs.,

No. 135C—6 ozs.

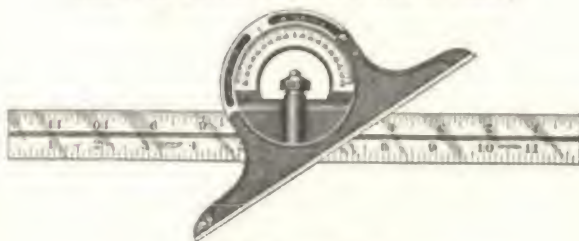
Blade Only (For No. 135 or 135C)

Length: 6 inches. Graduation: No. 4.....Price, each \$1.70

NOTE: General Description of Combination Squares—See Page 175.

**No. 5 Not Reversible.**

(Head has shoulder on one side of blade)

**No. 6 Reversible.**

(Head has shoulder on both sides of blade)

Bevel Protractors**Blade with Protractor Head Only****Level in All Heads****Tempered Blade****WITH PROTRACTOR HEAD
NOT REVERSIBLE**

No. 5	Graduation: No. 4.	
	8ths, 16ths, 32nds, 64ths inch.	
Size:	9-inch.....	Price, each \$4.50
	12-inch.....	Price, each 4.90
	18-inch.....	Price, each 6.00
	24-inch.....	Price, each 6.90
No. 5M	Graduation: Metric Only.	
No. 5ME	Graduation: Metric & English.	
Size:	20-cm.....	Price, each \$4.50
	30-cm.....	Price, each 4.90
	50-cm.....	Price, each 6.00
	60-cm.....	Price, each 6.90

**WITH REVERSIBLE
PROTRACTOR HEAD**

No. 6	Graduation: No. 4.	
	8ths, 16ths, 32nds, 64ths inch.	
Size:	9-inch.....	Price, each \$5.70
	12-inch.....	Price, each 6.10
	18-inch.....	Price, each 7.20
	24-inch.....	Price, each 8.10
No. 6M	Graduation: Metric Only.	
No. 6ME	Graduation: Metric & English.	
Size:	20-cm.....	Price, each \$5.70
	30-cm.....	Price, each 6.10
	50-cm.....	Price, each 7.20
	60-cm.....	Price, each 8.10

Nos. 5M and 6M are marked: Three edges in millimeters;
One edge in $\frac{1}{8}$ millimeters.

Nos. 5ME and 6ME are marked: One side $\frac{1}{8}$ millimeters and 32nds inch;
Other side millimeters and 64ths inch.

Packing: One in a box**Weight each: No. 5 Series ... 15, 18, 23 and 27 ounces.****No. 6 Series ... 18, 21, 26 and 30 ounces.**

Notes: Other Graduations Furnished Without Extra Charge on Nos. 5 and 6:

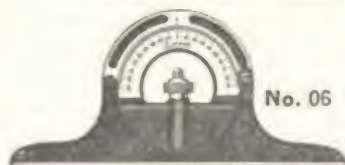
No. 7 (16ths, 32nds, 64ths and 100ths) on all lengths.

No. 16 (32nds, 64ths, 80ths and 100ths) on 12-inch.

General Description of Bevel Protractors—See Page 175.

ROSE TOOLS, INC.

Separate Parts of Combination Squares, Bevel Protractors and Combination Sets



No. 06

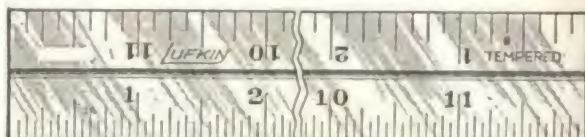


No. 05

Square, Center and Protractor Heads Only

In Ordering Heads, Always State Length Blade on Which Head Is to be Used

For Blade Length	Square Head		Center Head		Protractor Head	
	Cast	Hardened	Cast	Hardened	Reversible No. 06	Not Reversible No. 05
4-inch. Each.....	\$0.90	\$1.50	\$0.75	\$1.50	.....	.....
6-inch. Each.....	.90	1.90	.75	1.50	.....	.....
9-inch. Each.....	1.20	1.90	.75	1.90	\$4.20	\$3.00
12-inch. Each.....	1.50	2.40	.75	1.90	4.20	3.00
18-inch. Each.....	1.50	2.40	.75	1.90	4.20	3.00
24-inch. Each.....	1.50	2.40	.75	1.90	4.20	3.00
Scribers Only.....					Each	\$0.15
Bolt (with nut and spring).....					Each	.35



Combination Square Blades Only—Standard Graduations

No. 2504	Blade. Graduation No. 4. (8ths, 16ths, 32nds, 64ths inch.)					
No. 2507	Blade. Graduation No. 7. (16ths, 32nds, 64ths, 100ths inch.)					
	Length.....	4-inch	6-inch	9-inch	12-inch	18-inch 24-inch
	Price, each.	\$0.80	\$1.20	\$1.50	\$1.90	\$3.00 \$3.90
No. 2504R	Blade. Grad. No. 4 (8ths, 16ths, 32nds, 64ths.)	Readable 32nds and 64ths.				
	Length.....				12-inch 18-inch 24-inch	
	Price, each.....				\$2.30 \$3.60	\$4.70
No. 2516	Blade. Grad. No. 16 (32nds, 64ths, 50ths, 100ths.)					
	Length: Made in 12-inch only.....					Price, each \$1.00
No. 2516R	Blade. Grad. No. 16 (32nds, 64ths, 50ths, 100ths). Readable 50ths and 100ths. Length: Made in 12-inch only.....					Price, each \$2.30
No. S-2504	Stainless Steel Blade. Graduation No. 4 (8ths, 16ths, 32nds, 64ths inch.)					
	Length.....				12-inch 18-inch 24-inch	
	Price, each.....				\$3.25 \$5.40	\$7.25

Combination Square Blades Only—Shrink Graduation

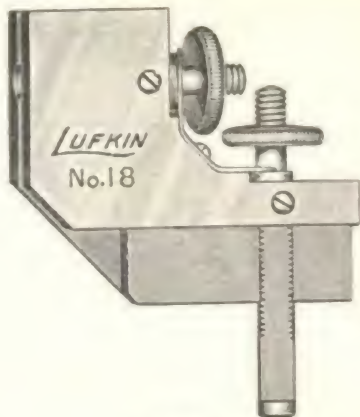
In all graduations on these Blades allowance is made for shrinkage of castings; the amount of such allowance is indicated below. These Blades are used by foundrymen, patternmakers and others. These Shrink Blades fit heads of our standard 12-inch size Combination Squares. They are tempered and are chime divided. Shrink blades are made in 12-inch length only.

Number	Shrink per Foot	Graduation	Price, Each
2583E Shrink Blade	$\frac{1}{8}$ inch	8ths, 16ths, 32nds, 64ths inch	\$2.70
2583F Shrink Blade	$\frac{3}{16}$ inch	8ths, 16ths, 32nds, 64ths inch	2.70

NOTE: Prices on this page apply also to Parts of corresponding size M and ME Combination Squares.



Clamp applied
to rule
and blade
of square



Rule Clamp

Right Angle Rule Clamps

(Attachment for Combination Square)

These Right Angle Rule Clamps will firmly hold at right angles a combination square blade (of 12, 18 or 24 inch length), and any regular steel rule not over one inch wide. So combined and employed with the heads of a Combination Square many valuable applications and uses are found. These Clamps can also be applied to Thin Steel Squares, such as our No. 139.

A feature of these Rule Clamps is the clip with prongs at each end, as pictured above. These prongs at all times hold both clamp nuts in place. Thus interference of the two bolts and nuts is eliminated and the operation of the tool simplified. The thumb nuts are knurled and of size most convenient to operate.

The essential difference between the two Clamps is that No. 18B has longer blade seats, as detailed below.

Body of 18A Clamp is $1\frac{1}{2} \times 1\frac{3}{4} \times 1\frac{1}{2}$ inch.

Body of 18B Clamp is $2\frac{5}{8} \times 2\frac{5}{8} \times 1\frac{1}{2}$ inch.

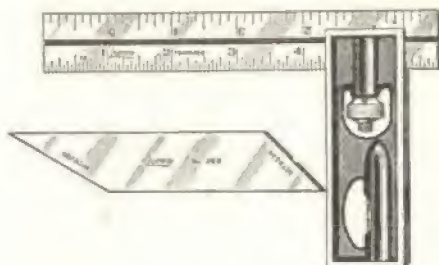
Number		Price, each
18A	Right Angle Rule Clamp	\$1.00
	Length of blade seats:	
	Slotted leg	$1\frac{1}{8}$ inch.
	Open leg	$1\frac{3}{4}$ inch.
18B	Right Angle Rule Clamp	1.25
	Length of blade seats:	
	Slotted leg	$2\frac{1}{8}$ inch.
	Open leg	$2\frac{3}{4}$ inch.

Packing: Four in a box.

Weight per box of 4: No. 18A, 10 ozs.; No. 18B, 1 lb.

Note: Rule Clamp, Straight Pattern—See page 224.

ROSE TOOLS, INC.



Double Squares

Tempered Blades

These are very convenient for pattern makers, machinists and tool makers. Unlike simple try squares, the blades are adjustable in length by moving the head. Thumb screw serves to securely set blades at any point. Both faces of the head are square. In the 6-inch and 15-cm. Squares the head is equipped with level. Polished and enameled parts of head are all well finished.

The bevel blade, illustrated above, gives hexagon and octagon angles, and is so marked, an improved feature.

The drill grinding blade converts the tool into a most practical Drill Grinding Gage. For markings and uses of this blade, see next page.

With No. 4 Graduation—8ths, 16ths, 32nds, 64ths Inch

With Graduated Blade Only No. 26A

Length	Price, Each
4-inch.....	\$1.85
6-inch.....	2.85

With Graduated and Bevel Blades No. 26B

Length	Price, Each
4-inch.....	\$2.35
6-inch.....	3.45

With Graduated, Bevel and Drill Grinding Blades No. 26C

Length	Price, Each
6-inch.....	\$4.70

No. 26M-A

Graduated Metric Only

No. 26M-B

No. 26M-C

Graduated Metric and English

No. 26ME-A With Graduated Blade Only

Length	Price, Each
10 cm.....	\$1.85
15 cm.....	2.85

No. 26ME-B With Graduated and Bevel Blades

Length	Price, Each
10 cm.....	\$2.35
15 cm.....	3.45

No. 26ME-C With Graduated, Bevel and Drill Grinding Blades

Length	Price, Each
15 cm.....	\$4.70

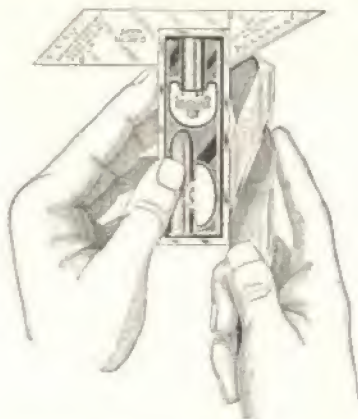
Nos. 26M—A, B and C are marked: Three edges in millimeters;
One edge in $\frac{1}{2}$ millimeters.

Nos. 26ME—A, B and C are marked: One side $\frac{1}{2}$ millimeters and 32nds inch;
Other side millimeters and 64ths inch.

Packing: One in a box.

Weight each, with 2 blades: 4-inch.... 4 ozs.; 6-inch.... 8 ozs.

NOTE: Separate parts of Double Squares—See foot of page 185.



Drill Grinding Gage

Tempered Blade

This is an ideal tool for use in drill grinding work, yet of moderate price. With it the cutting edges of drills and countersinks are most readily and accurately tested for proper angle, and their points for proper centering.

The head, or stock, is that of the Double Square (page 184), standard size and equipped with level. Polished and enameled parts of this head are all well finished. The drill grinding blade fits the head of six inch Double Square.

The bevel of blade at one end is 59 degrees, representing the cutting angle of drills; and at the other end 41 degrees, the cutting angle of countersinks for machine screws. Blade is slotted down the center, slides readily in the head, and may be securely set by thumb screw. It is $4\frac{1}{16}$ inches long overall.

The two bevel ends of blade are graduated to 64ths of an inch and have Readable Numbering, as on steel rules. A valuable and distinctive feature of this tool is that the graduations are placed to measure at right angles to the face of the square head, which, of course, is perpendicular with the axis of the drill. Thus the center of drill is directly obtained by reading the graduation. This affords the simplest and most accurate method of centering drill points.

The face of the square head, to which the drill is held, is $\frac{7}{16}$ inch wide, another aid to accurate and quick drill testing.

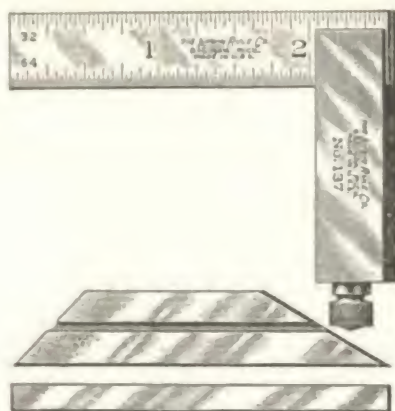
Number		Price, Each
26D	Drill Grinding Gage Complete. Weight each 8 ozs.	\$2.90
26E	Drill Grinding Blade Only for No. 26D	1.25

Packing: One in a box

NOTE: Number 26D with addition of Graduated Measuring Blade and Plain Bevel Blade is No. 26C, listed page 184.

Separate Parts of Double Squares and Drill Grinding Gage (Pages 184 and 185)

Graduated Measuring Blade		Plain Bevel Blade	
4 inch (10 cm).....	Each \$0.90	For 4 inch Square.....	Each \$0.50
6 inch (15 cm).....	Each 1.35	For 6 inch Square.....	Each .60
Drill Grinding Blade		Head or Stock Only	
For Head of 6 inch Square..	Each \$1.25	For 4 inch Square.....	Each \$1.00
		For 6 inch Square.....	Each 1.60



Double Steel Squares

With Hardened and Ground Head and Blades

Designed especially for tool and die makers. Both faces of head (or stock) are square. All blades slide in head, permitting use in places where a square with fixed blade could not be used. Knurled thumb nut with tension spring serves to securely lock any of the blades.

This Square is furnished in various combinations with the following blades:

Standard Blade.....Graduated one side only, upper edge 32nds, lower edge 64ths inch.

2½ inches long. Approximately ½ inch wide.

Bevel Blade.....To determine 30 and 45 degree angles. 2½ inches long. Approximately ½ inch wide.

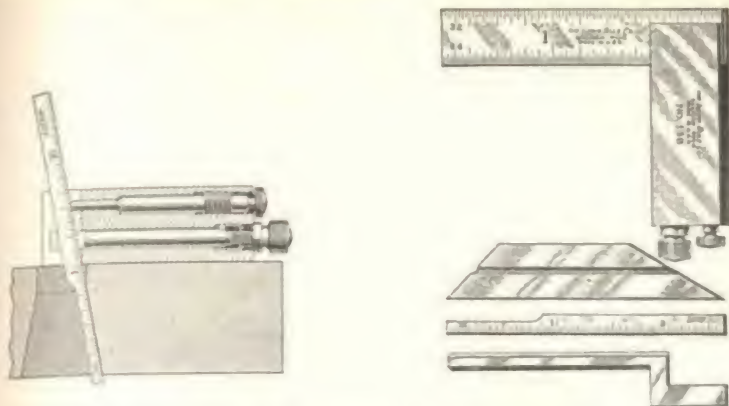
Narrow Blade.....⅛ inch wide. 2½ inches long. Ungraduated. Very handy for squaring small holes.

Number

	Price Each
137A Square with Standard Blade.....	\$3.25
137B Square with Standard and Bevel Blades.....	3.55
137N Square with Standard and Narrow Blades.....	3.55
137C Square Complete, with Standard, Bevel and Narrow Blades.....	3.85

Packing: One in a box. Weight each: About 2 ounces

NOTE: No. 137C furnished unless otherwise specified.



Die Makers Squares

With Hardened and Ground Head and Blades

A tool and die makers Square designed so that the blades not only slide in the head (or stock) but can be adjusted at an angle with the stock. This is particularly valuable in determining the clearance in dies (see sectional view).

Both faces of the stock are square. Stock has two knurled thumb screws, the larger one is for locking blade in desired position, the smaller is for setting any of the blades at an angle. To set blade at an angle, first loosen the thumb screw which clamps the blade, then turn the smaller thumb screw into the stock. The sectional view shows how this action adjusts the blade to the desired angle, which is then held by tightening the clamping screw.

This Square is furnished in various combinations with the following blades:

Standard Blade..... Graduated one side only, upper edge 32nds, lower edge 64ths inch.

2½ inches long. Approximately ½ inch wide.

Bevel Blade..... To determine 30 and 45 degree angles.

2½ inches long. Approximately ½ inch wide.

Narrow Blade..... Approximately ⅝ inch wide. 2½ inches long.

Cut away on one end ¾ inch back, giving a blade ⅜ inch by ⅛ inch in size for use in very small places.

Blade graduated one side to 32nds inch.

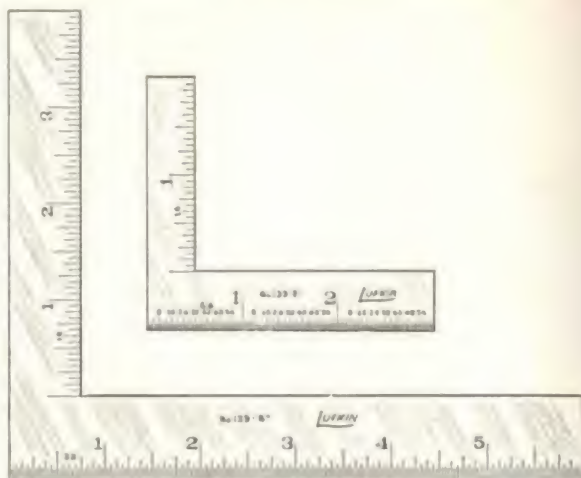
Offset Blade..... Used in places where it is difficult to sight with the straight blade. The offset end of blade is approximately ⅝ inch wide and extends from the stock about 1½ inches. Both sides of each edge are beveled to give a line contact.

Number		Price Each
138A	Square with Standard Blade.....	\$4.00
138B	Square with Standard and Bevel Blades.....	4.30
138N	Square with Standard and Narrow Blades.....	4.50
138C	Square with Standard, Bevel and Narrow Blades.....	4.80
138CX	Square Complete, with Standard, Bevel, Narrow and Offset Blades...	5.80

Packing: One in a box. Weight each: About 3 ounces

Note: No. 138CX furnished unless otherwise specified.

ROSE TOOLS, INC.



Thin Steel Squares

In laying out work these Squares are very handy for draftsmen, pattern and toolmakers, machinists and others.

They are graduated on one inside edge and one outside edge of both sides. The 2"x1" and 3"x2" Squares are graduated 16ths and 64ths inch on one side and 32nds and 64ths on the other side, and both these sizes have "Readable" Graduations (64ths numbered every 8th division). The 4"x3" and 6"x4" Squares are graduated 16ths and 32nds inch both sides.

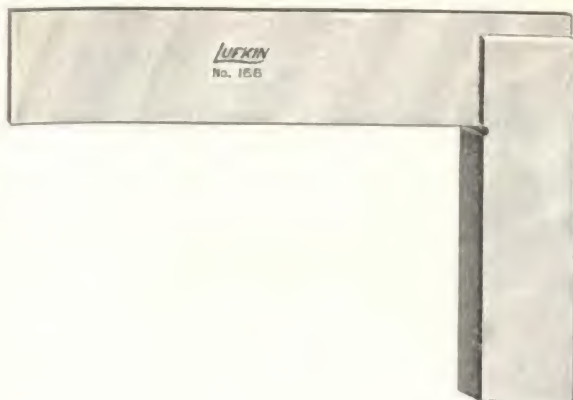
Number	Size	Length of Blades	Thickness of Blades	Price, Each
139	— 2 inch	2" x 1"	$\frac{1}{20}$ inch	\$2.10
139	— 3 inch	3" x 2"	$\frac{1}{20}$ inch	2.70
139	— 4 inch	4" x 3"	$\frac{1}{16}$ inch	3.60
139	— 6 inch	6" x 4"	$\frac{1}{16}$ inch	5.10

Packing: Three in a box.

Weight each: 2 and 3 inch, $1\frac{1}{2}$ oz.

4 inch, $1\frac{1}{2}$ ozs.

6 inch, 3 ozs.



Hardened Solid Steel Squares

Not Graduated

These are used as master squares and in checking close work. They have solid, i.e., one-piece beam or base. Both the beam and the blade are lapped. At the inner corner the beam is grooved to afford clearance for burr or dirt. The length of blade, as given below, is from the inner edge of the beam.

Wood Cases or Racks for protecting these Squares are also listed below. They are supplied only when specified.

No.	Size (Length Blade)		Length Beam	Price, Each
166	1½ inch	Solid Steel Square	1½ inch	\$3.60
166	3 inch	Solid Steel Square	2½ inch	4.50
166	4½ inch	Solid Steel Square	3½ inch	6.90
166	6 inch	Solid Steel Square	4½ inch	9.00

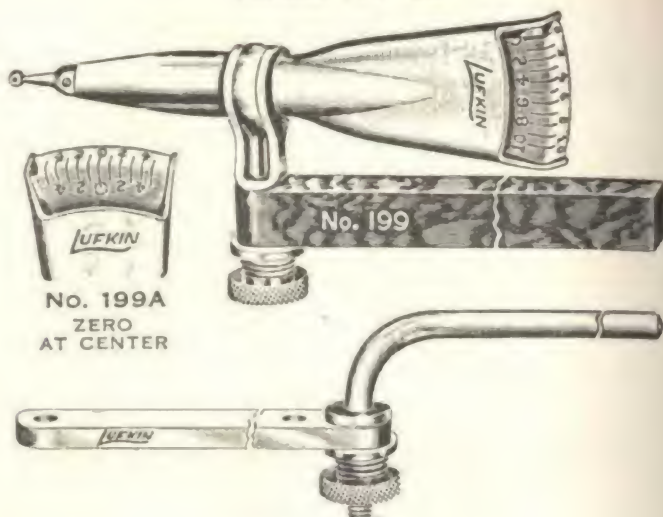
Packing: One in a box.

Weight, each: 1½ inch..... 1½ ozs.; 3 inch..... 4½ ozs.
 4½ inch..... 10 ozs.; 6 inch..... 1 lb.

Wood Cases or Racks for Above Squares

For 1½ inch Square	\$2.00 each.
For 3 inch Square	2.25 each.
For 4½ inch Square	2.50 each.
For 6 inch Square	ROSE TOOLS, INC.

Indicator Full Size



Universal Indicator

(PATENTED)

Rotating Head

Positive Lock

Two Reading Faces

Can Be Used and Read in Any Practical Position

The Indicator, which is one unit, makes a complete revolution on its own center and also on the clamping bolt. This forms practically a universal joint, all locked in position by one thumb nut. The contact point is frictionally held and can be set at any position in a half circle.

A unique and valuable feature of this Indicator is the location of its reading faces. One of these is on the flat side or face, the other on the end or top, making this Indicator especially suitable for jig boring, milling machine and drill press work. In such work, the end graduation makes possible reading without a mirror. Also, when used with a Surface Gage and Vernier Height Gage, end reading is the convenient way. Users of this tool will instantly recognize that end reading is most natural and handy in a great many of the applications of an Indicator to its work.

A standard bar for general use and a special attachment are furnished with each Indicator. The special attachment is used in Drill Chuck or Surface Gage, its flat bar only is used with Vernier Height Gage. With it many other set-ups can be made. When used with our special (offset) attachment, our Indicator will enter a very small hole, because its contact point is in line with the rotating center.

The clamping device is a nut, spring and washer, held together as one unit. During set-up and previous to tightening it frictionally holds the Indicator in position.

Contact point and all working parts are hardened. Housing is of tough, rust-proof metal; clamp screw and nut are of steel for long wear.

This Indicator is offered in two styles of marking:

No. 199 has zero at extreme left, and reads left to right.

No. 199A has zero at center, and reads to the left and to the right.

Ideal protection for this fine tool is our high grade, plush-lined case with spring-hinged cover. This case is supplied only when ordered.

FOR LISTINGS SEE FOOT OF NEXT PAGE

A Few of the Many Uses of LUFKIN Universal Indicator



Indicating Flange in Lathe



Indicating Hole in Jig Bore,
Milling Machine or Drill Press



Indicating Diameter in Lathe



In Use with Height Gage



In Use with Surface Gage

Listings of Universal Indicator

(For description see page 188-B)

Number		Price, Each
199	Indicator. Zero reading at end	\$5.00
199A	Indicator. Zero reading at center	5.00
	Plush-lined Case for above. (Supplied only when ordered) .....	.75
	Special Diameter Contact Points, prices on application.	
	Packing: One in a box. Weight	

ROSE TOOLS, INC.

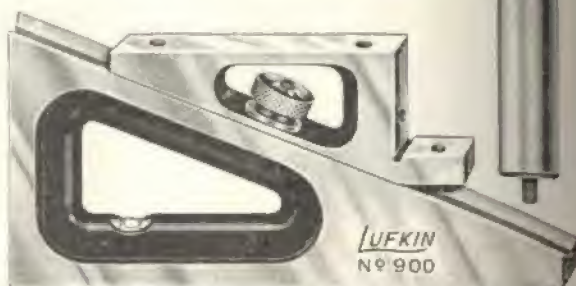
Master Planer and Shaper Gage

Hardened and Ground

(For further illustrations see next page.)



Position of Parts
to Get Maximum
Range, 9 inches



Position for
Smallest Setting,
 $\frac{1}{4}$ inch

This is known as a "Master" Tool because it is designed and precision built, not only to serve better as a Planer Gage, but to properly handle many jobs to which the ordinary gage is unsuited. Slide and base are accurately fitted. Slot in which slide travels is beveled as well as ground, eliminating side play, assuring accuracy. All measuring surfaces are precisely ground. Gage can be used on base, on end, also flat on either side, as both slide and nut are within the outside width of base and both sides are ground square with the working edges.

A few of the many applications of this Master Gage are:

- Setting cutting tool on Planer or Shaper; saves time.
(Set Gage to size with Micrometer, Surface Gage or Calliper.)
- Used with Gage Blocks in building up work on surface plate.
- Used with Sine Bar in grinding angles.
- Used with Indicator, for transferring measurements.
- Used as an Adjustable Parallel (upper face of slide being extra long, and slide and base accurately fitted).

Three-inch extension, regularly supplied with each Gage, makes possible tool settings from $\frac{1}{4}$ inch to 9 inches; without extension the range is $\frac{1}{4}$ to $6\frac{1}{2}$ inches. (The one-inch extension, listed as an extra, is handy for adding an even inch.)

Base and slide are of drop forged steel, hardened. Base is $\frac{3}{8}$ inch wide, $5\frac{1}{8}$ inches long, and fitted with level. Slide has clamp nut securely locking it in position.

The Genuine Mahogany Case, listed as an extra, is in keeping with this fine tool and the best protection for it.

FOR LISTINGS SEE NEXT PAGE

A Few of the Many Uses of **LUFKIN** No. 900 Master Planer and Shaper Gage



Used in Conjunction with Sine Bar in Grinding Angles



With Gage Blocks for Setting Up Work on a Surface Plate



Gage Being Set to Micrometer Accuracy



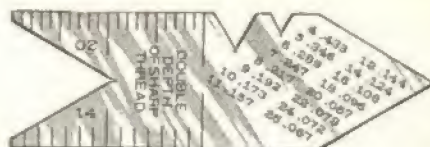
Used to Set Cutting Tool. Note Use of Extension Bar.

Listing of Master Planer and Shaper Gage

(For description see page 188-D)

Number		Price, Each
900	Master Planer and Shaper Gage	\$8.00
	Mahogany Case for above. (Supplied only when ordered)	1.50
	One-inch Extension for No. 900. (Supplied only when ordered) .....	.75

Packing: One in a box. We **ROSE TOOLS, INC.**



Center Gages

Center Gages are used in grinding and setting screw cutting tools. The graduations carried are those most commonly required in determining the number of threads per inch or per centimeter. All are of steel, of approximate length $2\frac{1}{4}$ inches, width $\frac{1}{16}$ inch. All except No. **136** are of thickness $\frac{1}{32}$ inch.

Numbers **36**, **036**, **37** and **037** carry table of double depth figures. This is valuable, being used to determine tap drill size for sharp 60 and 55 degree "V" threads. Allowance must be made for the extent to which thread is flattened, it being impractical to tap a perfectly sharp thread.

Number **136** is an accurate Center Gage, hardened and ground all over, and is $\frac{1}{8}$ inch thick. Its added thickness gives greater gage contact surface, making it easier to find alignment, more quickly giving accurate result. It is a sturdy tool, most practical, easiest to handle, and especially suitable for checking heavy threads.

Marked 14ths, 20ths, 24ths and 32nds Inch

Number		Price, Each
36	Center Gage. Spring tempered. Angles of 60 degrees (U. S., i.e., National S. T. Standard).....	\$0.50
036	Center Gage. Not tempered. Angles of 60 degrees (U. S., i.e., National S. T. Standard).....	.40
37	Whitworth Standard Center Gage. Spring tempered. Angles of 55 degrees.....	.50
037	Whitworth Standard Center Gage. Not tempered. Angles of 55 degrees.....	.40

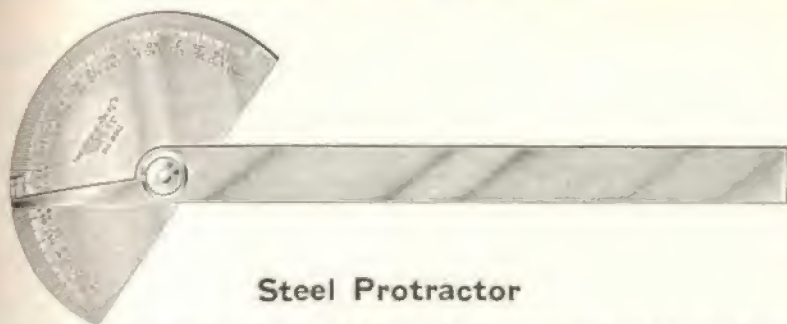
Not Graduated

Number		Price, Each
136	Heavy Center Gage. Hardened and Ground. Angles of 60 degrees (U. S., i.e., National S. T. Standard).....	\$3.50

Marked: Two edges in millimeters, Two edges in $\frac{1}{2}$ millimeters

Number		Price, Each
36M	Metric Center Gage. Spring tempered. Angles of 60 degrees.....	\$0.50
036M	Metric Center Gage. Not tempered. Angles of 60 degrees.....	.40

Packing: Six in a box.

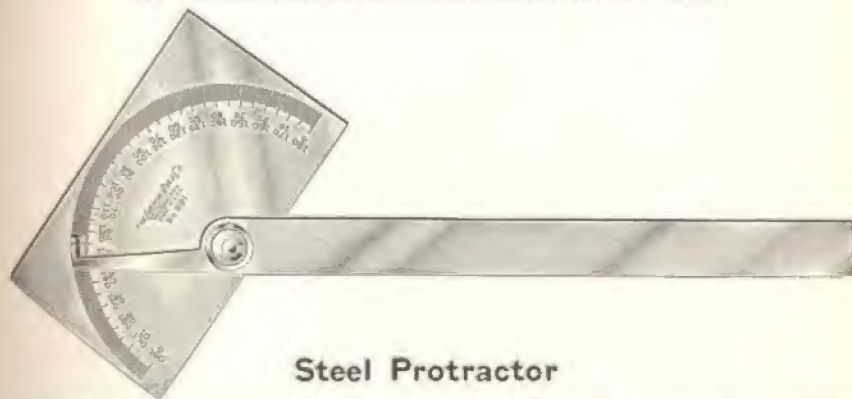


Steel Protractor

A handy Protractor for machinists, draftsmen, and other mechanics; used in setting bevels, transferring angles, and many other classes of work.

The head is semi-circular and its back is flat. It is graduated at the edge in degrees from 0 to 180, and has two rows of figures reading in opposite directions. The indicating arm of the blade has a line graduation for accurately setting and reading the Protractor. The blade is six inches long, has spring giving constant tension and can be securely set by means of the knurled thumb nut.

Number	Price, Each
890 Steel Protractor.....	\$2.50



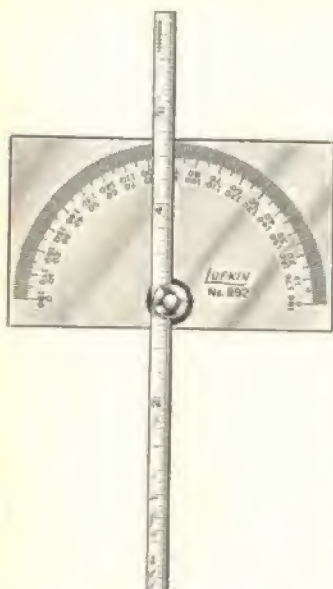
Steel Protractor

A handy Protractor differing from No. 890 only in the shape of the head. Used by machinists, draftsmen and others in setting bevels, transferring angles, etc.

Head being rectangular gives four working faces. Back of head is flat. Head is graduated in degrees from 0 to 180, and has two rows of figures reading in opposite directions. The indicating arm of the blade has a line graduation for accurately setting and reading the Protractor. The blade is six inches long, has spring giving constant tension and can be securely set by means of the knurled thumb nut.

Number	Price, Each
891 Steel Protractor.....	\$3.00

Packing Nos. 890 and 891: One in a ROSE TOOLS, INC. 3 ounces



Protractor and Depth Gage

This handy tool for machinists, draftsmen and others serves for setting bevels, transferring angles and gaging depths.

The head being rectangular has four working faces. Back of head is flat. Head is graduated in degrees from 0 to 180 and has two rows of figures reading in opposite directions.

The blade of this Protractor is our regular, narrow pattern, machine divided scale No. 2310, six-inch, graduated one side 64ths, other side 32nds inch. It serves not only as blade and indicating arm for the Protractor, but also as graduated blade of Depth Gage, as it slides through the head of the set nut. It has spring affording constant tension and the knurled thumb nut securely sets it at any angle and at any length extended.

Number	Price, Each
892 Protractor and Depth Gage.....	\$3.00

NOTE: Blade graduated 64ths and 100ths (No. 2311 Rule) Furnished with above when specified, without extra charge.

Packing: One in a box
Weight each: 3 ounces

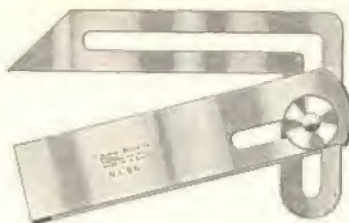


Steel Protractor

Used for setting at any desired angle Bevels such as our Nos. 66 and 67, shown page 193. Thus used, the tool is converted into a Bevel Protractor. It is graduated at the edge in degrees from 0 to 180, and has two rows of figures reading in opposite directions. The back of the tool is flat.

Number	Price, Each
893 Steel Protractor.....	\$1.75

Packing: One in a box
Weight each: 2 ounces



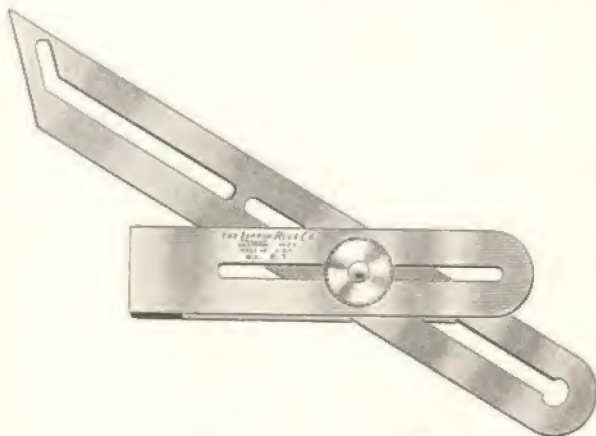
Universal Bevel

This Universal Bevel is a very popular tool, necessary in many classes of work. The blade is so shaped that it can be set even at the slightest angle.

Arm of the blade having beveled end is 3 inches long. Stock is 3 inches long, and, while slotted, is solid on one edge for $1\frac{3}{4}$ inches, forming a rest under the blade against which the work may be placed and accurately fitted. This tool has a spring giving constant tension and knurled thumb nut with which the blade can be locked at any angle. Head of the clamping bolt sets into a recess, allowing the stock to lie flat on the work.

Bevel No. 66 can be used with Protractor No. 893 as a Bevel Protractor.

Number	Price, Each
66 Universal Bevel.....	\$2.25



Universal Bevel

Blade of this Bevel has both straight and offset slots. Therefore it will take adjustments and angles that cannot be obtained with many common Bevels.

Stock is $3\frac{1}{2}$ inches long, blade 6 inches. This tool has a spring affording constant tension and knurled thumb nut with which the blade can be locked in any position. Head of the clamping bolt sets into a recess, allowing the stock to lie flat on the work.

Bevel No. 67 can be used with Protractor No. 893 as a Bevel Protractor.

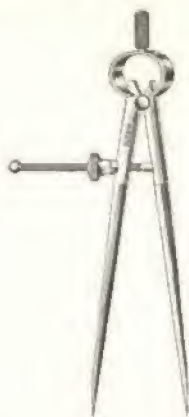
Number	Price, Each
67 Universal Bevel.....	\$2.25

Packing: One in a box

Weight each: No. 66—2 ozs.; No. 67—4 ozs.

NOTE: Steel Protractor No. 893—See page 192.

ROSE TOOLS, INC.



Toolmakers Spring Dividers

Round Leg Pattern

This is the type of Divider preferred by fine mechanics. These Toolmakers Round Leg Dividers are furnished only with solid nut.

The legs are of round stock, nicely tapered by swaging. The adjustment screw is mounted central in the legs, avoiding all torsion on legs and spring. These features add to the stability of the tool. Stiff, flat bow spring insures reliability. Parts most subject to wear are hardened.

Legs are finely formed and these Dividers are especially well proportioned throughout and nicely finished, so are most attractive. All have thumb attachment.

No.	Size	Price, Each
140 — 2 inch.	Toolmakers Divider.....	\$1.20
140 — 3 inch.	Toolmakers Divider.....	1.50
140 — 4 inch.	Toolmakers Divider.....	1.80
140 — 5 inch.	Toolmakers Divider.....	1.80
140 — 6 inch.	Toolmakers Divider.....	2.10

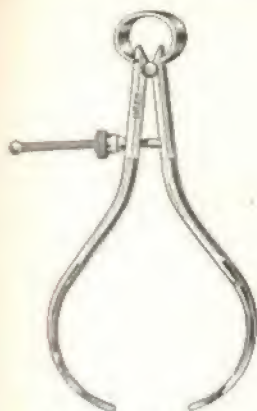
Packing: Two in a box

Weight per doz.: 2-inch $\frac{3}{4}$ lb.; 3-inch $\frac{5}{8}$ lb.;

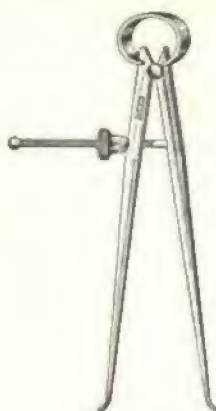
4-inch 1 lb.; 5-inch $1\frac{1}{4}$ lbs.; 6-inch $2\frac{1}{4}$ lbs.

Duplicate Parts of Toolmakers Spring Calipers and Dividers

Part	Price, Each	Part	Price, Each
Screw and Ball.....	\$0.20	Leg.....	\$0.40
Spring with Thumb Attachment (for No. 140).....	.50	Spring (for Nos. 141 and 142).. <td>.30</td>	.30
Nut.....	.15	Jam Washer.....	.15
		Fulcrum Stud.....	.15



Outside Caliper
No. 141



Inside Caliper
No. 142

Toolmakers Outside and Inside Spring Calipers Round Leg Pattern

This is the type of Caliper preferred by fine mechanics. These Toolmakers Round Leg Calipers are furnished only with solid nut.

The legs are of round stock, nicely tapered by swaging. The adjustment screw is mounted central in the legs, avoiding all torsion on legs and spring. These features add to the stability of the tool. Stiff, flat bow spring insures reliability. Parts most subject to wear are hardened.

Legs are finely formed and these Calipers are especially well proportioned throughout and nicely finished, making them most attractive.

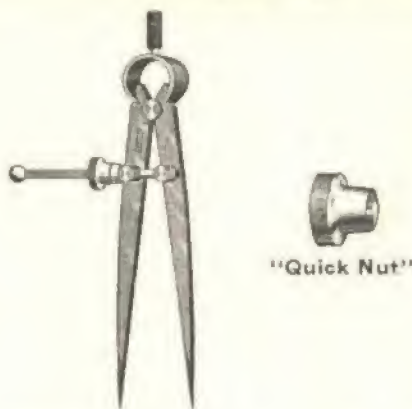
No.	Size	Price, Each
141 — 2 inch.	Toolmakers Outside Caliper.....	\$1.20
141 — 3 inch.	Toolmakers Outside Caliper.....	1.50
141 — 4 inch.	Toolmakers Outside Caliper.....	1.80
141 — 5 inch.	Toolmakers Outside Caliper.....	1.80
141 — 6 inch.	Toolmakers Outside Caliper.....	2.10

No.	Size	Price, Each
142 — 2 inch.	Toolmakers Inside Caliper.....	\$1.20
142 — 3 inch.	Toolmakers Inside Caliper.....	1.50
142 — 4 inch.	Toolmakers Inside Caliper.....	1.80
142 — 5 inch.	Toolmakers Inside Caliper.....	1.80
142 — 6 inch.	Toolmakers Inside Caliper.....	2.10

Packing: Two in a box

Approximate weight per doz.: 2-inch $\frac{3}{4}$ lb.; 3-inch $\frac{3}{4}$ lb.;
4-inch $1\frac{1}{4}$ lbs.; 5-inch $1\frac{5}{8}$ lbs.

ROSE TOOLS, INC.



"Banner" Spring Dividers

With Solid Nut

With "Quick Nut"

Spring Dividers are the kind most widely used. In our Spring Dividers each part is made of steel best suited to the purpose. The points are properly hardened. The stiff, flat bow spring insures reliability. These Dividers are correct in shape and size and have a fine, uniform finish. All have thumb attachment.

The "Quick Nut" is designed for making quick adjustments. On release of pressure this nut slides freely over the threads of the screw, but on slightest leg pressure grips the screw firmly. It is the best device for the purpose and a marked improvement over the common spring nut, as measurement obtained is positively held. It does not have a spring to become worn as it passes over the threads and does not wear or strip the screw. Our "Quick Nut" Dividers, having this rapid and positive feature, are proving very popular.

"BANNER" SPRING DIVIDERS

With Solid Nut

No.	Size	Price, Each
40—	2½ inch	\$0.80
40—	3 inch	.85
40—	4 inch	.90
40—	5 inch	1.00
40—	6 inch	1.05
40—	8 inch	1.35
40—	10 inch	1.65
40—	12 inch	1.80

"BANNER" SPRING DIVIDERS

With "Quick Nut"

No.	Size	Price, Each
50—	2½ inch	\$1.00
50—	3 inch	1.05
50—	4 inch	1.10
50—	5 inch	1.15
50—	6 inch	1.20
50—	8 inch	1.50
50—	10 inch	1.80
50—	12 inch	2.00

Packing: Three in a box

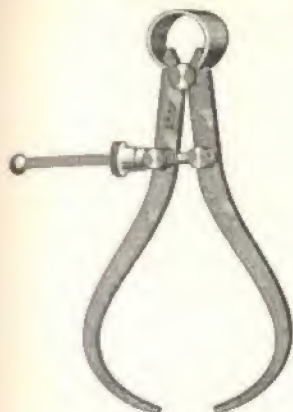
Weight per doz.: 2½-inch ½ lb.; 3-inch ¾ lb.; 4-inch 1¼ lbs.;

5-inch 1½ lbs.; 6-inch 2½ lbs.; 8-inch 4 lbs.; 10-inch 5½ lbs.; 12-inch 7¾ lbs.

Duplicate Parts of "Banner" Spring Calipers and Dividers

Part	Price, Each
Screw and Ball	\$0.20
Spring with Thumb Attachment (for Nos. 40 and 50)	.50
Solid Nut	.15
"Quick Nut"	.30

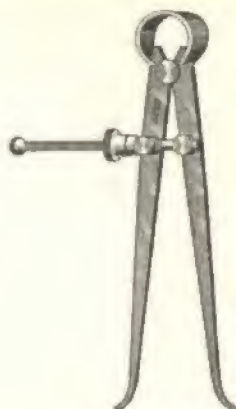
Part	Price, Each
Leg	\$0.30
Spring (For Nos. 41, 51, 42 and 52)	.30
Jam Washer	.15
Fulcrum Stud	.15



Outside Caliper
Nos. 41 and 51



"Quick Nut"



Inside Caliper
Nos. 42 and 52

"Banner" Outside and Inside Spring Calipers With Solid Nut and with "Quick Nut"

Spring Calipers are the type most widely used. In our Spring Calipers all parts are made of steel best suited to the purpose, and those most subject to wear are properly hardened. Stiff, flat bow spring insures reliability. These Calipers are correct in shape and size and have a fine, uniform finish.

The inside type can be used as a Transfer Caliper, as the legs can be sprung in and withdrawn and when released will spring back to the size calipered.

The "Quick Nut" is designed for making quick adjustments. On release of pressure this nut slides freely over the threads of the screw, but on slightest leg pressure grips the screw firmly. It is the best device for the purpose and a marked improvement over the common spring nut, as measurement obtained is positively held. It does not have a spring to become worn as it passes over the threads and does not wear or strip the screw. Our "Quick Nut" Calipers, having this rapid and positive feature, are proving very popular.

"BANNER" OUTSIDE CALIPERS

With Solid Nut			With "Quick Nut"		
No.	Size	Each	No.	Size	Each
41-2½	inch	\$0.80	51-2½	inch	\$1.00
41-3	inch	.85	51-3	inch	1.05
41-4	inch	.90	51-4	inch	1.10
41-5	inch	1.00	51-5	inch	1.15
41-6	inch	1.05	51-6	inch	1.20
41-8	inch	1.20	51-8	inch	1.40
41-10	inch	1.65	51-10	inch	1.80
41-12	inch	1.80	51-12	inch	2.00

"BANNER" INSIDE CALIPERS

With Solid Nut			With "Quick Nut"		
No.	Size	Each	No.	Size	Each
42-2½	inch	\$0.80	52-2½	inch	\$1.00
42-3	inch	.85	52-3	inch	1.05
42-4	inch	.90	52-4	inch	1.10
42-5	inch	1.00	52-5	inch	1.15
42-6	inch	1.05	52-6	inch	1.20
42-8	inch	1.20	52-8	inch	1.40
42-10	inch	1.65	52-10	inch	1.80
42-12	inch	1.80	52-12	inch	2.00

Packing: Three in a box

Approx. weight per doz.: 2½-inch 3½ lbs.; 3-inch 3½ lbs.; 4-inch 3½ lbs.; 5-inch 1¾ lbs.; 6-inch 2½ lbs.; 8-inch 4½ lbs.; 10-inch 5½ lbs.; 12-inch 8 lbs.

ROSE TOOLS, INC.



Outside Caliper
No. 11



Inside Caliper
No. 12

Firm Joint Outside and Inside Calipers

Joint with adjustable tension is the distinctive feature of these Firm Joint Calipers. Lock screw construction enables one to set and hold the legs to any desired tension or friction, always operating smoothly.

These Calipers are of sturdy construction throughout, nicely proportioned and well finished.

All sizes below are length of legs. Actual capacity is about one-quarter greater than this length.

FIRM JOINT OUTSIDE CALIPERS

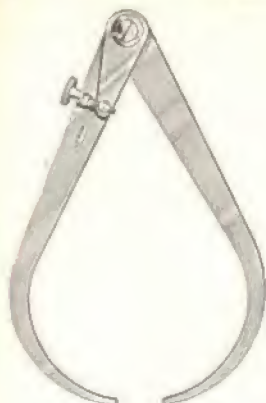
No.	Size	Price, Each
11 —	3 inch	\$0.50
11 —	4 inch	.60
11 —	5 inch	.70
11 —	6 inch	.80
11 —	8 inch	1.00
11 —	10 inch	1.10
11 —	12 inch	1.20
11 —	14 inch	1.80
11 —	16 inch	2.10
11 —	18 inch	2.55
11 —	20 inch	3.00
11 —	24 inch	3.60
11 —	30 inch	6.00
11 —	36 inch	7.20

FIRM JOINT INSIDE CALIPERS

No.	Size	Price, Each
12 —	3 inch	\$0.50
12 —	4 inch	.60
12 —	5 inch	.70
12 —	6 inch	.80
12 —	8 inch	1.00
12 —	10 inch	1.10
12 —	12 inch	1.20
12 —	14 inch	1.80
12 —	16 inch	2.10
12 —	18 inch	2.55
12 —	20 inch	3.00
12 —	24 inch	3.60

Packing: 3 to 6 inch. 6 in a box
 8 to 12 inch. 3 in a box
 14 to 20 inch. 2 in a box
 24 inch and over. 1 in a package

Size in inches.	3	4	5	6	8	10	12	14
Wt. each in ounces.	1	1	2	3	5	7	11	14
Size in inches.	16	18	20	24	30			36
Wt. each in lbs.	1¼	1½	2¼	3½	6			7½



Outside Caliper
No. 21



Inside Caliper
No. 22

Screw Adjusting Firm Joint Calipers

In addition to all the features of the Firm Joint Calipers shown page 198, these have a screw for making the close adjustment.

These Calipers operate smoothly and the head construction enables one to set the legs at any desired degree of tension or friction. Being a firm joint rather than a spring caliper, these are most quickly brought to size, or approximate size, and the feature of a screw with which to make the fine adjustment has certain advantages. They are of sturdy construction throughout, are nicely proportioned and well finished.

All sizes below are length of legs. Actual capacity is about one-quarter greater than this length.

OUTSIDE CALIPERS

Screw Adjusting—Firm Joint

No.	Size	Price, Each
21 —	4 inch	\$1.10
21 —	6 inch	1.20
21 —	8 inch	1.50
21 —	10 inch	1.80
21 —	12 inch	2.10
21 —	14 inch	2.40
21 —	16 inch	2.70
21 —	18 inch	3.00
21 —	20 inch	3.30
21 —	24 inch	4.20

INSIDE CALIPERS

Screw Adjusting—Firm Joint

No.	Size	Price, Each
22 —	4 inch	\$1.10
22 —	6 inch	1.20
22 —	8 inch	1.50
22 —	10 inch	1.80
22 —	12 inch	2.10
22 —	14 inch	2.40
22 —	16 inch	2.70
22 —	18 inch	3.00
22 —	20 inch	3.30
22 —	24 inch	4.20

Packing: 4 to 12 inch. 3 in a box
 14 to 20 inch. 2 in a box
 24 inch. 1 in a package

Size in inches	4	6	8	10	12
Weight each in ozs.	2	3	6	8	13
Size in inches	14	16	18	20	24
Weight each in lbs.	1	1 1/2	3 1/2	2 1/2	3 1/2

ROSE TOOLS, INC.



No. A-17



No. 17

Firm Joint Hermaphrodite Calipers

This type of Caliper is used principally in laying out work, locating centers, etc.

A distinctive feature of these Calipers is the adjustable joint. Like other Firm Joint Calipers, they have lock screw construction in the head, enabling one to set and hold the legs to any desired tension or friction. They are of sturdy construction throughout, smooth working, nicely proportioned and well finished.

All sizes given below are length of legs. Actual capacity is about one-quarter greater than this length.

Number A-17 has adjustable point.

FIRM JOINT HERMAPHRODITE CALIPERS

With Adjustable Point

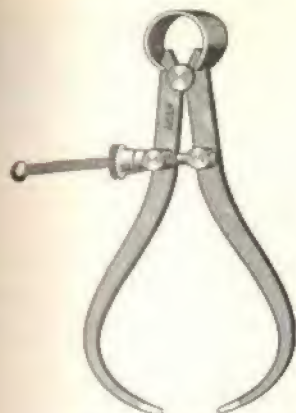
No.	Size	Price, Each
A-17	4-inch	\$0.80
A-17	6-inch	1.00
A-17	8-inch	1.20

FIRM JOINT HERMAPHRODITE CALIPERS

No.	Size	Price, Each
17	4-inch	\$0.60
17	6-inch .....	.80
17	8-inch	1.00

Packing: Three in a box

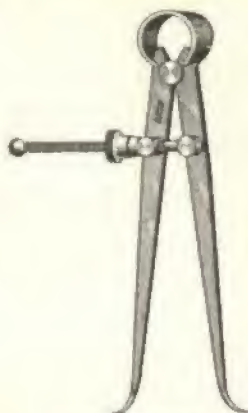
Weight per doz.: 4-inch $1\frac{1}{4}$ lbs.; 6-inch $2\frac{1}{2}$ lbs.; 8-inch $3\frac{1}{4}$ lbs.



Outside Thread Caliper
No. 44



"Quick Nut"



Inside Thread Caliper
No. 45

Thread Calipers

These are Spring Calipers used for taking measurements of outside and inside screw threads. Points are suitably shaped to work in threads. In all other respects these are identical with our general purpose "Banner" Spring Calipers.

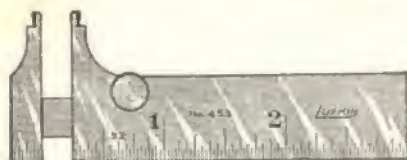
Parts most subject to wear are properly hardened. All parts are well proportioned and nicely finished. Stiff, flat bow spring insures reliability.

The "Quick Nut" is designed for making quick adjustments. It is the best device for this purpose and a marked improvement over the common spring nut. Measurement is not only quickly obtained, but positively held. On release of pressure this nut slides freely over the threads of the caliper screw, but on slightest leg pressure grips that screw firmly.

No.	Size		With Solid Nut	With "Quick Nut"
			Price, Each	Price, Each
44—4 inch.	Outside Thread Caliper	.....	\$0.90	\$1.10
44—5 inch.	Outside Thread Caliper	.....	1.00	1.15
44—6 inch.	Outside Thread Caliper	.....	1.05	1.20

No.	Size		With Solid Nut	With "Quick Nut"
			Price, Each	Price, Each
45—4 inch.	Inside Thread Caliper	.....	\$0.90	\$1.10
45—5 inch.	Inside Thread Caliper	.....	1.00	1.15
45—6 inch.	Inside Thread Caliper	.....	1.05	1.20

Note: Nos. 44 and 45 are furnished with Solid Nut unless "Quick Nut" is specified.



Pocket Slide Calipers

These are steel Pocket Slide Calipers suitable for outside and inside calipering. Measurement, both outside and inside, being read to a line rather than to face of jaw, is an aid to accuracy. To simplify reading, the outside and inside reading lines are marked "out" and "in."

These Slide Calipers have machine divided graduations and are finely finished. They can be locked, securely setting the slide at any point. This lock is readily set and released by the same hand in which the tool is held. The slide has stop so cannot be entirely withdrawn or lost out.

On 3-inch and 7 cm. On 5 & 6-inch & 12 cm.

Depth of jaws. $1\frac{1}{16}$ inch (17 mm.). $1\frac{1}{16}$ inch (36 mm.).

Width of nibs, closed. . . $\frac{1}{8}$ inch (3 mm.). $\frac{1}{4}$ inch (6 mm.).

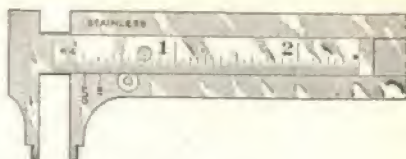
Number	Marked English Only		Price, Each
453	3-inch. Pocket Slide Caliper.		
	Calipering capacities: Outside $2\frac{1}{4}$, inside $2\frac{1}{4}$ inches.		
	Graduation: Slide 64ths inch. Stock 32nds inch.		\$4.00
455	5-inch. Pocket Slide Caliper.		
	Calipering capacities: Outside $3\frac{1}{16}$, inside 4 inches.		
	Graduation: Slide, one edge 32nds, one edge 64ths inch.		
	Stock 32nds inch.		5.00
456	6-inch. Pocket Slide Caliper.		
	Calipering capacities: Outside $4\frac{3}{4}$, inside 5 inches.		
	Graduation: Slide, one edge 32nds, one edge 64ths inch.		
	Stock 32nds inch.		7.00
Marked Metric Only			
453M	7 centimeter. Pocket Slide Caliper.		
	Calipering capacities: Outside 54, inside 57 millimeters.		
	Graduation: Slide $\frac{1}{2}$ millimeters. Stock millimeters.		\$4.00
455M	12 centimeter. Pocket Slide Caliper.		
	Calipering capacities: Outside 97, inside 103 millimeters.		
	Graduation: Slide $\frac{1}{2}$ millimeters. Stock millimeters.		5.00
Marked English and Metric			
453EM	3-inch (7 cm.). Pocket Slide Caliper.		
	Graduation: Slide, one edge 64ths inch, one edge $\frac{1}{2}$ mm.		
	Stock 32nds inch.		\$4.00
455EM	5-inch (12 cm.). Pocket Slide Caliper.		
	Graduation: Slide, one edge 64ths inch, one edge $\frac{1}{2}$ mm.		
	Stock 32nds inch.		5.00

Packing: One in a box. Weight each: 3-inch 1 oz.; 5-inch 3 ozs.; 6-inch 5 ozs.

Soft Leather Cases for Pocket Slide Calipers

3-inch size. . . . \$0.35 5-inch size. . . . \$0.45 6-inch size. . . . \$0.55 each

NOTE: Stainless Steel Pocket Slide Calipers—See page 203.



Stainless Steel Pocket Slide Calipers Rust-Proof

These Pocket Slide Calipers, being of high grade genuine Stainless Steel, are rust and stain-proof, a very desirable feature especially in this tool.

In pattern these are identical with our other Pocket Slide Calipers, and have the same standard features, as follows:

Are suitable for outside or inside calipering and, for both, read to a line, these lines clearly lettered "Out" and "In."

Have machine divided graduations and are finely finished.

Have lock, operated by thumb of same hand in which the tool is held, and securely setting the slide at any point.

Slide has stop, so cannot be entirely withdrawn or lost out.

Depth of jaws..... On S-453... $\frac{9}{16}$ inch. On S-455... $1\frac{1}{16}$ inch.

Width of nibs, closed..... On S-453... $\frac{1}{8}$ inch. On S-455... $\frac{1}{4}$ inch.

Number

Price, Each

S-453 3-inch. Stainless Steel Pocket Slide Caliper.

Calipering capacities: Outside $2\frac{1}{8}$, inside $2\frac{1}{4}$ inches.

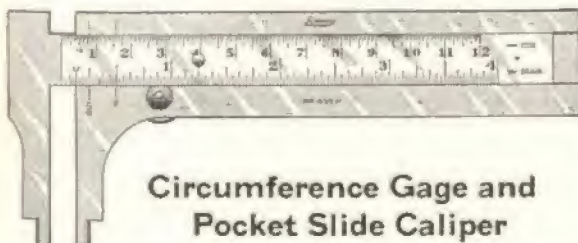
Graduation: Slide 64ths inch. Stock 32nds inch..... **\$6.75**

S-455 5-inch. Stainless Steel Pocket Slide Caliper.

Calipering capacities: Outside $3\frac{3}{8}$, inside 4 inches.

Graduation: Slide, one edge 32nds, one edge 64ths inch.

Stock 32nds inch..... **8.00**



Circumference Gage and Pocket Slide Caliper

This is a standard pattern steel Pocket Slide Caliper but carrying circumference as well as standard measurement on the slide. Lower edge of slide is graduated standard inches to 32nds; upper edge circumference inches to 16ths. Stock is graduated 5 inches to 32nds.

Applying this Caliper to diameters, outside or inside, circumferences as well as diameters can be read directly. Jaws being $1\frac{1}{16}$ inch deep, this tool will caliper a cylinder up to $2\frac{3}{4}$ -inch diameter. Width of nibs when closed is $\frac{1}{4}$ -inch.

With this Slide Caliper all measurements are read to a line rather than to face of jaw, and the reading lines are clearly marked "out" and "in." These features make for accurate measuring.

This Caliper has convenient lock, also has slide stop. It has machine divided graduations and is finely finished.

Number

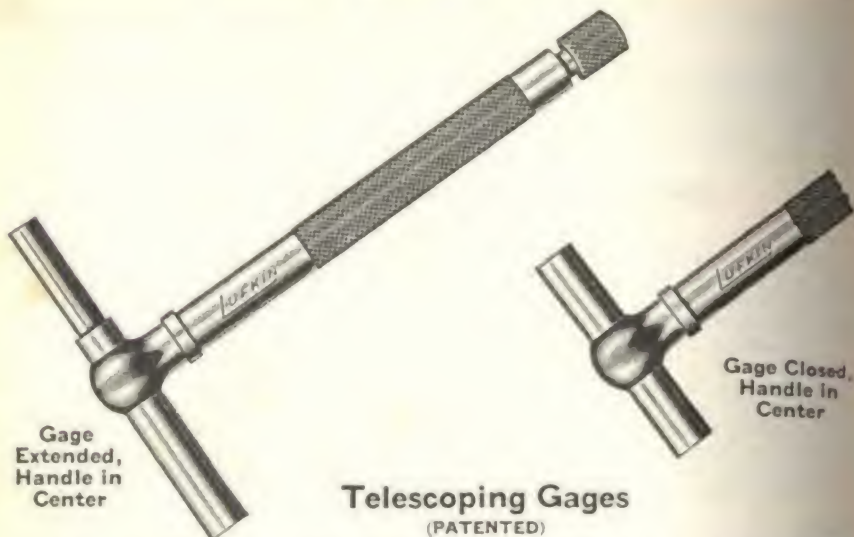
Price, Each

455P 5-inch. Circumference Gage and Pocket Slide Caliper..... **\$5.00**

Calipering capacities: Outside $3\frac{3}{8}$, inside 4 inches of diameter.

Packing: One in a box. Weight each: 2 lbs. 10 oz. 5 3/4 lb. 3 ozs.

ROSE TOOLS, INC.



Using a Telescoping Gage the inside size of slots or holes is quickly and accurately obtained. The measurement, down to one thousandth inch or less, is then taken from the Gage with a Micrometer.

Our Telescoping Gages consist of a handle and two plungers, one telescoping into the other, and both under constant spring tension. Plungers can be locked by slight turn of the knurled screw in the end of the handle. The ends of the plungers are hardened and ground to a radius, giving clearance in the smallest opening the Gage will enter.

With the plungers telescoping into each other and the handle adjustable as to position on the extended tool, there is no measurement within the capacity of the tool that cannot be taken with our Telescoping Gage.

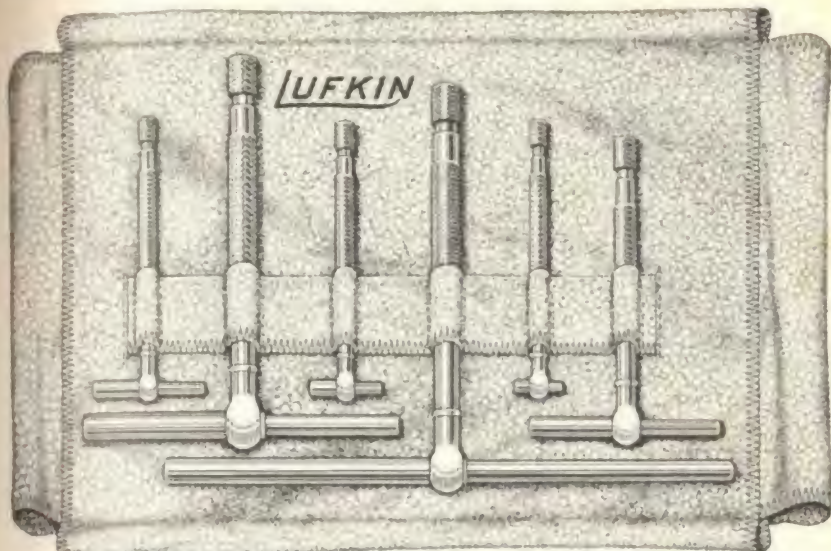
Unlike other similar tools, the handle of our Telescoping Gage can always be locked in the center of plungers, which gives that perfect balance and feel so essential to accuracy. This is illustrated below.



An Outstanding Feature of *LUFKIN* Telescoping Gages

In this operation on a blanking die, note the position of handle. Even though the Gage is not fully extended, its handle is just where it should be, in the center of the tool. Thus perfect balance is always maintained, giving accurate results.

**FURTHER DESCRIPTION AND
LISTINGS—SEE PAGE 203**



Complete Set No. 79L
Range: 5/16 to 6 Inches

Telescoping Gages (CONTINUED)

Our Telescoping Gages are made in six sizes. The smallest will enter a $\frac{5}{16}$ inch hole; the largest expands to 6 inches. Five-sixteenths inch is a smaller opening than can be measured by any other Gage of this type.

Method of Use

Compress plungers, then lock them by turning screw in handle.

Insert Gage into hole, then release lock.

(The plungers will expand themselves to exact size of hole or slot.)

Then lock plungers, remove the Gage, and measure it with a Micrometer.

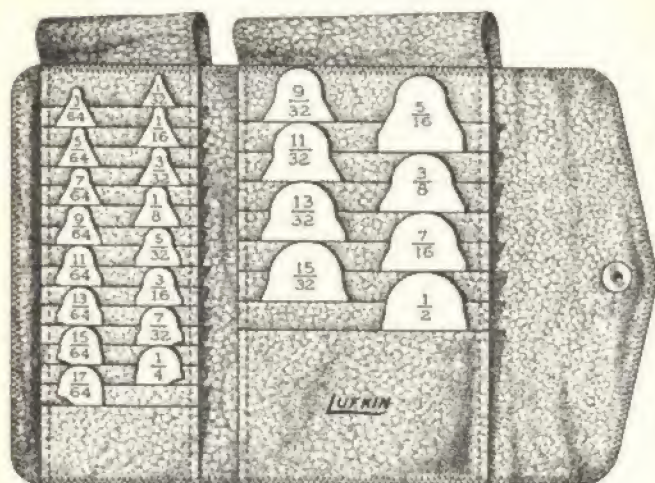
Individual Telescoping Gages

Gage Number		Weight, Each	Price, Each
79AA	Telescoping Gage. Range: $\frac{5}{16}$ to $1\frac{1}{4}$ inch	$1\frac{1}{2}$ oz.	\$1.80
79A	Telescoping Gage. Range: $\frac{1}{2}$ to $\frac{3}{4}$ inch	$1\frac{1}{2}$ oz.	1.80
79B	Telescoping Gage. Range: $\frac{3}{4}$ to $1\frac{1}{4}$ inches	$1\frac{1}{2}$ oz.	2.10
79C	Telescoping Gage. Range: $1\frac{1}{4}$ to $2\frac{1}{4}$ inches	1 oz.	2.40
79D	Telescoping Gage. Range: $2\frac{1}{4}$ to $3\frac{1}{2}$ inches	3 ozs.	3.00
79E	Telescoping Gage. Range: $3\frac{1}{2}$ to 6 inches	$3\frac{1}{2}$ ozs.	3.60

Sets of Telescoping Gages

Set Number		Weight, Each	Price of Set
79L	Complete Set. Range: $\frac{5}{16}$ to 6 inches Six Gages in Red Leatherette Case, as illustrated above. Includes one each Nos. 79AA, 79A, 79B, 79C, 79D, 79E.	10 ozs.	\$16.20
79M	Small Set. Range: $\frac{5}{16}$ to $2\frac{1}{4}$ inches. Four Gages in Red Leatherette Case. Includes one each Nos. 79AA, 79A, 79B, 79C.	4 ozs.	9.10

Packing: One only or one set ROSE TOOLS, INC.



Set No. 77C

Radius Gages

(PATENTED)



Holder No. 20

But a few of the many applications of Radius Gages (otherwise known as Fillet Gages) are shown on next page. Such Gages are used by tool and diemakers, pattern makers, templet layout men, screw machine operators and other mechanics.

The following 2 outstanding features are found only in our Radius Gages:

- (1) Each blade (or gage) is a separate unit; thus each one can be most conveniently and accurately applied to the work.
- (2) Each blade carries the corresponding external and internal forms, the practical combination.

In our Radius Gages, each of the steel blades or gages is prominently marked with its radius, and all the gages comprised in a Set are put up in an attractive and durable leatherette folder. This folder insures proper protection for all and makes most simple and easy the selection of the individual gage wanted.

We Offer Radius Gages in 5 Different Sets, Their Contents as Follows:

- (77A) 16 Gages....Radii from $\frac{1}{64}$ to $\frac{1}{4}$ inch by 64ths.
- (77B) 8 Gages....Radii from $\frac{1}{32}$ to $\frac{1}{4}$ inch by 32nds.
- (77C) 24 Gages....Sets 77A and 77B combined.
- (77D) 16 Gages....Radii from $\frac{1}{32}$ to $\frac{1}{2}$ inch by 32nds.
- (77E) 8 Gages....Radii from $\frac{1}{16}$ to 1 inch by 16ths.

Radius Gage Holder

Not regularly furnished with Sets. If wanted order as "No. 20 Holder."

Our Holder or Handle for Radius Gage Blades is especially well suited to its work. It is four inches long and enables one to gage nicely even in small and out-of-the-way places. Blade is placed in either the 30 or 45 degree slot of this Holder. It is then securely held, not only at either of these angles, but also when sharply cocked to either side. Knurled nut at other end of Holder rigidly clamps the blade or gage.

FOR LISTINGS SEE NEXT PAGE

A Few of the Many Uses of **LUFKIN** Radius Gages



1

View No. 1: Shows gage used to determine the radius of inside corners or fillets for one-fourth or less of a circle. Straight sides of gage are at 90 degrees and can be used for checking location of radius.

View No. 2: Shows gage used to determine the radius of outside corners. Also shows whether sides are at 90 degrees and tangent to circle.



2



3

View No. 3: Shows work being checked on a piece of glass. Also checks any other convex parts, where radius is one-fourth or more of circle, that have projections which will not permit the use of gage as in Views 2 and 5.

View No. 4: Shows use of gage on concave cutter of one-half or less of circle. This gage can be used to check the radius shown in View No. 1, but will not show the relation of radius to sides.



4



5

View No. 5: Checks one-half of a circumference.

Listings of Radius Gages and Holder

Set No.	(Descriptions on page 206)	Price per Set
77A	Radius Gage Set. Complete with Leatherette Folder. 16 gages. Radii from $\frac{1}{32}$ to $1\frac{1}{4}$ inch by 64ths.	\$4.00
77B	Radius Gage Set. Complete with Leatherette Folder. 8 gages. Radii from $\frac{1}{32}$ to $\frac{1}{2}$ inch by 32nds.	2.50
77C	Radius Gage Set. Complete with Leatherette Folder. 24 gages. (Consists of Sets 77A and 77B combined.) Radii from $\frac{1}{32}$ to $1\frac{1}{4}$ inch by 64ths, and $\frac{3}{32}$ to $\frac{1}{2}$ inch by 32nds.	6.50
77D	Radius Gage Set. Complete with Leatherette Folder. 16 gages. Radii from $\frac{1}{32}$ to $\frac{1}{2}$ inch by 32nds.	4.50
77E	Radius Gage Set. Complete with Leatherette Folder. 8 gages. Radii from $\frac{1}{16}$ to 1 inch by 16ths.	24.00

Extra Blades (or Gages) for Above Sets

From $\frac{1}{32}$ to $1\frac{1}{4}$ inch.	\$0.40 each
From $\frac{3}{32}$ to $\frac{1}{2}$ inch. ....	.45 each
From $\frac{9}{16}$ to 1 inch, i.e. the following large sizes: $\frac{1}{16}$, $\frac{3}{16}$, $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$ and 1 inch.	3.00 each

No. 20 Holder Only for all above Radius Gages. \$0.75 each

Packing: One set in a box.

Wt. per Set: 77A, 3 oss. 77B, 6 oss. 77C, ROSE TOOLS, INC. lbs.



Thickness Gages

All (except No. 06) with Patent Lock

Thickness Gages, also called Feeler Gages, are extensively used not only in the manufacture and servicing of automobiles, but by toolmakers, machinists and others in jig and fixture work, in the making of gages, in experimental work, etc.

All Gages on this page have leaves of tempered steel, ground to exact thickness, individually tested, and each one clearly marked with its thickness. These leaves are of the popular width and length. All of these Gages have regular case into which the leaves fold.

No. 06, 6-leaf, is our lowest priced Gage, yet a good reliable tool with regular case. It is extensively used by garage mechanics, car owners, truck and tractor operators in determining clearance of tappets, fitting pistons, and adjusting spark gap. It is a simple matter to remove screw stud and insert a new leaf in case. Other end of case has an eyelet, so the Gage may be carried on key ring or hung up.

Nos. 109, 109M and 116M have patent lock feature which is very handy in all work. By means of a lock nut any one or more leaves can be locked in any position, also all leaves can be securely held in the case when not in use. Lock also permits use of the Gage in its overall length, which, with leaf extended and locked, is 6 inches. Lock holds blade firmly, making it easy to insert in any opening. It also reduces the chance of error. Lock is operated by same hand in which the Gage is held.

All with Leaves 3 Inches Long, 1/2 Inch Wide

Number		Price, Each
06	6-Leaf Thickness Gage. Thicknesses: .0015, .002, .003, .004, .006, .015 inch.....	\$0.90
109	9-Leaf Thickness Gage. Thicknesses: .0015, .002, .003, .004, .006, .008, .010, .012, .015 inch..	1.50
109M	9-Leaf Metric Thickness Gage. Thicknesses: .04, .05, .06, .07, .08, .10, .15, .20, .25 millimeters. Combined thickness 1 mm. Leaves approximately 12 mm. wide, 7 1/2 cm. long	1.50
116M	16-Leaf Metric Thickness Gage. Thicknesses: .04, .05, .06, .07, .08, .10, .15, .20, .25, .30, .35, .40, .45, .50 millimeters and two leaves of 1 mm each. Combined thickness 5 mm. Leaves approximately 12 mm. wide, 7 1/2 cm. long	2.50

Packing: No. 06, Six in a box

All others—One in a box, three in a carton



Thickness Gages with Tapered Leaves

With Patent Lock

These Thickness Gages, all having leaves tapered to $\frac{1}{4}$ inch width, are especially popular because they give access to narrow openings. Aside from the leaves being tapered, these Gages are identical with those of similar numbers on page 208.

All Gages below have leaves of tempered steel, ground to exact thickness, individually tested and each one clearly marked with its thickness. These leaves are of the popular length, 3 inches. All Gages have regular case into which the leaves fold.

Patent lock is a feature of these Gages, always convenient and especially valuable in some classes of work. By means of a lock nut any one or more leaves can be locked in any position or all leaves securely held in the case when not in use. Lock also permits use of the Gage in its overall length, which, with leaf extended and locked, is 6 inches. Lock holds blade firmly making it easy to insert in any opening. It also reduces the chance of error. Lock nut is operated by same hand in which the Gage is held.

All with Leaves 3 Inches Long, Tapered to $\frac{1}{4}$ Inch Wide

Number		Price Each
109T	9-Leaf Thickness Gage. With tapered leaves. Thicknesses: .0015, .002, .003, .004, .006, .008, .010, .012, .015 inch.	\$1.50
110T	10-Leaf Thickness Gage. With tapered leaves. Thicknesses: .0015, .002, .0025, .003, .004, .006, .008, .010, .012, .015 inch. (Same as No. 109T but having in addition leaf .0025)	1.75
109TM	9-Leaf Metric Thickness Gage. With tapered leaves. Thicknesses: .04, .05, .06, .07, .08, .10, .15, .20, .25 millimeters. Combined thickness 1 mm. Leaves approximately $7\frac{1}{2}$ cm. long, tapered to $6\frac{1}{2}$ mm.	1.50



Thickness Gages

With Patent Lock

With Tapered Leaves.

With Straight Leaves.

A feature of these Gages is the wide range of thicknesses they offer. Nos. **126** and **126T** have leaves increasing in thickness by one-thousandth inch from .002 to .025 inclusive and carry also leaves .0015 and .0025 inch. No. **122** runs by thousandths from .004 to .025 inch. No. **126T**, because of its range of thicknesses and also having tapered leaves giving access to narrow openings, will handle practically any work required of a Thickness Gage.

All Gages on this page have leaves of tempered steel, ground to exact thickness, individually tested, and each one clearly marked with its thickness. Leaves of Nos. **126** and **122** are $\frac{1}{2}$ inch wide; those of No. **126T** are tapered to $\frac{1}{4}$ inch width. All three have regular case into which the leaves fold.

Patent lock is a feature of these Gages. By means of a lock nut any one or more leaves can be locked in any position or all securely held in the case when not in use. Lock also permits use of the Gage in its overall length, which, with leaf extended and locked, is 6 inches. Lock holds blade firmly, making it easy to insert in any opening. It also reduces the chance of error. Lock nut is operated by same hand in which the Gage is held.

All with Leaves 3 Inches Long

Number

Price Each

126T 26-Leaf Thickness Gage. With tapered leaves.

Thicknesses: .0015, .002, .0025, .003, .004, .005, .006, .007, .008, .009, .010, .011, .012, .013, .014, .015, .016, .017, .018, .019, .020, .021, .022, .023, .024, .025 inch.

\$3.50

126 26-Leaf Thickness Gage. With straight leaves.

Exactly same thicknesses as No. **126T** but leaves not tapered.

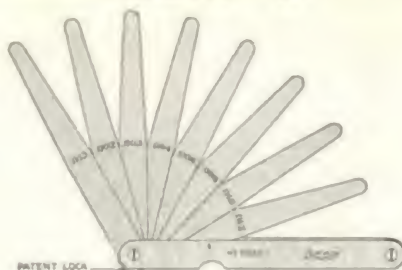
3.50

122 22-Leaf Thickness Gage. With straight leaves.

Thicknesses: .004, .005, .006, .007, .008, .009, .010, .011, .012, .013, .014, .015, .016, .017, .018, .019, .020, .021, .022, .023, .024, .025 inch.

2.50

Packing: One in a box, three in a carton



Thickness Gages with Tapered Leaves

With Patent Lock

These Thickness Gages have longer leaves (4½ and 6 inches) therefore are best for work requiring long reach. They are especially popular with motor mechanics for determining clearance between pistons and cylinder walls. On such work the patent lock is very convenient, as leaf may be locked making it easiest to insert and, in line with the case, giving overall reach of 9 inches with Gage No. 208T and of 12 inches with 308T. Both have leaves tapered to ¼-inch width, giving access to narrow openings.

All leaves are of tempered steel, ground to exact thickness, individually tested, and each one clearly marked with its thickness. All Gages have regular case into which the leaves fold.

Lock nut, operated by same hand in which Gage is held, will lock any one or more leaves in any position, easiest to use and reducing chance of error. It also will securely hold all leaves in case when not in use.

Number		Price, Each
208T	8-Leaf Thickness Gage. With tapered leaves, 4½ inches long. Thicknesses: .002, .003, .004, .006, .008, .010, .012, .015 inch. Overall length with leaf extended and locked, 9 inches.	\$2.50
308T	8-Leaf Thickness Gage. With tapered leaves, 6 inches long. Thicknesses: Same as No. 208T. Overall length with leaf extended and locked, 12 inches.	3.00
Packing: One in a box		

Thickness Gage Leaves Only

For use as separate pieces or for replacing Leaves in Gages.

In ordering 3-inch Leaves. Specify thickness and "straight" or "tapered."
In ordering 4½ and 6-inch Leaves. Specify thickness.

Length	Price, Each
3 inch Leaves. Straight or tapered.	\$0.25
4½ inch Leaves. Tapered Only. ....	.40
6 inch Leaves. Tapered Only. ....	.50

Ground Thickness Gage Stock

This is offered to meet the demand for Ground Thickness Gage Stock Only, in long pieces. This Stock we supply in any of our standard thicknesses, ½ inch wide, and in lengths listed below. Each of these pieces is marked with its thickness.

Always Specify "Ground Stock" and state Thickness and Length.

Length	Price, Each
6-inch Pieces.	\$0.25
12-inch Pieces. ....	.50
18-inch Pieces. ....	.75

NOTE: No. 10 "Universal" Feeler Stock—See page 212 ROSE TOOLS, INC.



“Universal” Feeler Stock—No. 10 In 1-Foot Pieces

Clean Stock. Handy Length. Popular Priced.

In the manufacture and servicing of automobiles this Feeler Stock is most extensively used, practically a necessity. It is used in determining the clearance of tappets, fitting pistons, adjusting spark gap, ring groove clearance, gear play, etc. It is employed in other shops also by toolmakers and machinists, and in experimental work.

Each piece of this Feeler Stock has both ends rounded and marked with its thickness. This Stock is $\frac{1}{2}$ inch wide and each 1-foot piece is in individual envelope, flat and ready to hand out. This prevents the waste due to rust and stain from handling, and to breaking from a coil.

No. 10 Feeler Stock.

Packing: Twelve 1-foot pieces of one thickness in a box, each piece in individual envelope

Made in the following Thicknesses

Thickness in inches	Price per foot	Thickness in inches	Price per foot	Thickness in inches	Price per foot
.0015	\$0.34	.006	\$0.24	.011	\$0.20
.002	.34	.007	.20	.012	.20
.003	.34	.008	.20	.013	.20
.004	.24	.009	.20	.015	.20
.005	.24	.010	.20		

No. 10 Assortment of Feeler Stock Price per Assortment \$27.60

Each Assortment consists of 9 boxes of 12 1-ft. pieces per box, one box of each of the following thicknesses:

.0015, .002, .003, .004, .006, .008, .010, .012, .015

(The 9 boxes comprising this Assortment are in a handy open end carton, as illustrated above)

NOTE: Ground Thickness Gage Stock—See page 211.



"Universal" Feeler Stock In 25-Foot Roll in Metal Case

No. 110

Offered in Ten Popular Thicknesses

Accurate, clean, smooth-edged Thickness Gage or Feeler Stock, $\frac{1}{2}$ inch wide, in 25-foot rolls, in metal case. This Feeler Stock carries Lufkin name and cutting line each foot, and is prominently marked with its thickness every six inches throughout.

The plated metal case or holder is of improved pattern. It is of size best to handle and to keep the stock in proper condition. From it the stock is always easily withdrawn; the revolving core makes it simple to recoil any unused portion.

This is stock as required by automobile mechanics in fitting pistons, setting tappets, adjusting spark gap, gear play, etc., and in experimental work by tool-makers and machinists everywhere. In our metal case it is easiest to carry on hand by dealer or at tool crib, and most readily withdrawn and cut to length by distributor or mechanic.

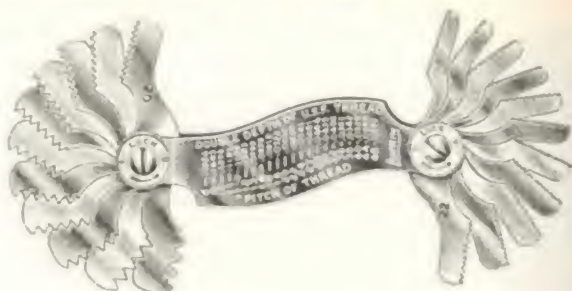
No. 110 Feeler Stock (Specify thickness also).

Thickness in inches			Price of 25-Foot Roll in Case
.0015	25 feet	Price per foot 34c	\$8.50
.002	25 feet	Price per foot 34c	8.50
.003	25 feet	Price per foot 34c	8.50
.004	25 feet	Price per foot 24c	6.00
.005	25 feet	Price per foot 24c	6.00
.006	25 feet	Price per foot 24c	6.00
.007	25 feet	Price per foot 20c	5.00
.008	25 feet	Price per foot 20c	5.00
.010	25 feet	Price per foot 20c	5.00
.015	25 feet	Price per foot 20c	5.00

Packing: 25-foot roll in case in a box.

Weight each: Approximately $\frac{1}{2}$ lb.

ROSE TOOLS, INC.



Screw Pitch Gages

With Patent Locks.

Without Locks.

These Gages measure the pitch, or number of threads per inch, of both the U. S. Form Thread and the Sharp "V" Thread. All have regular case into which the blades fold at each end. Each blade (or leaf) is marked with its pitch. All blades are shaped to quickly measure the inside threads of nuts as well as the outside threads of bolts, screws, etc. On the outside of the case the Double Depth of the U. S. Form Thread is given, this being the recognized standard thread. To obtain the Double Depth of Sharp "V" Threads, for the same pitch, add $\frac{1}{8}$ to the Double Depth given for U. S. Form Thread.

Screw Pitch Gages of Series 74 have patent locks; those of Series 73 are without lock, otherwise the two Series are identical. Lock nut is at both ends and is easily operated by same hand in which the Gage is held. Thus any one or more blades can be locked in any position or all locked in case when not in use. This feature eliminates chances of error, and is especially handy where one pitch is being repeatedly used.

Number		Price, Each
74A	22-Pitch Gage. With Patent Locks. Pitches: 8-9-10-11-11 $\frac{1}{2}$ -12-13-14-16-18-20 22-24-27-28-30-32-36-38-40-44-48	\$1.50
73A	22-Pitch Gage. Without Lock. Pitches: Exactly same as Gage No. 74A, above.	1.35
74B	24-Pitch Gage. With Patent Locks. Pitches: 4-4 $\frac{1}{2}$ -5-5 $\frac{1}{2}$ -6-7-8-9-10-11-11 $\frac{1}{2}$ -12 13-14-16-18-20-22-24-27-28-30-32-36	1.75
73B	24-Pitch Gage. Without Lock. Pitches: Exactly same as Gage No. 74B, above.	1.50
74C	28-Pitch Gage. With Patent Locks. Pitches: 8-9-10-11-11 $\frac{1}{2}$ -12-13-14-16-18-20-22-24-27 28-30-32-36-38-40-44-48-50-56-60-64-72-80	2.00
73C	28-Pitch Gage. Without Lock. Pitches: Exactly same as Gage No. 74C, above.	1.75
74D	28-Pitch Gage. With Patent Locks. Pitches: 3-3 $\frac{1}{4}$ -3 $\frac{1}{2}$ -4-4 $\frac{1}{2}$ -5-5 $\frac{1}{2}$ -6-7-8-9-10-11-11 $\frac{1}{2}$ 12-13-14-16-18-20-22-24-27-28-30-32-36-38	2.00
73D	28-Pitch Gage. Without Lock. Pitches: Exactly same as Gage No. 74D, above.	1.75

Packing: One in a box, six in a carton

Universal Surface Gages

Hardened Base



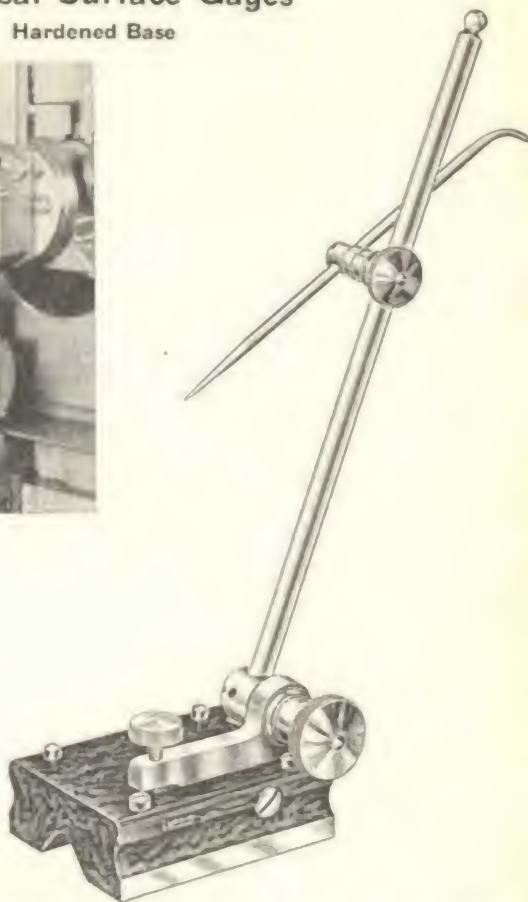
These Surface Gages embody all the latest improvements in design and construction.

Base is well proportioned, hardened, and is finished in mottled blue, with all measuring faces ground and polished. Bottom and one end of base are grooved. Base has four gage pins, for use as guides on linear work.

The spindle is of hollow, rigid steel tubing, and being light, will not, even when used with attachments, cause base to tip. It can be set upright, at any angle, or so that scriber can be used below the base. For small work the spindle may be removed and scriber inserted through the small hole for it in the rotating head. The spindle and scriber holes are kept constantly in alignment by set screws.

The fine adjustment, to get exact setting, is made with the screw at one end, after the spindle has been clamped in approximate position. This fine adjustment screw works against a stiff spring at the other end and allows greater range of adjustment than on any other similar gage.

Length of spindle, as listed, does not include the base.



Number	Bases of Nos. 520A, 520B and 520C are 3 $\frac{1}{4}$ inches long	Price, Each
520A	Universal Surface Gage. With 9-inch spindle.	\$4.75
520B	Universal Surface Gage. With 9 and 12-inch spindles	5.25
520C	Universal Surface Gage. With 12-inch spindle.	5.00
	18-inch Spindle for any above.	Extra each .90
	Indicator Attachment for any above—(A spindle clamp with $\frac{1}{4}$ inch hole for holding Indicator).	Extra each .90

Packing: One in a box. Weight each: Nos. 520A and 520C, 2 $\frac{3}{4}$ lbs.; No. 520B, 3 lbs.

ROSE TOOLS, INC.

Universal Surface Gages

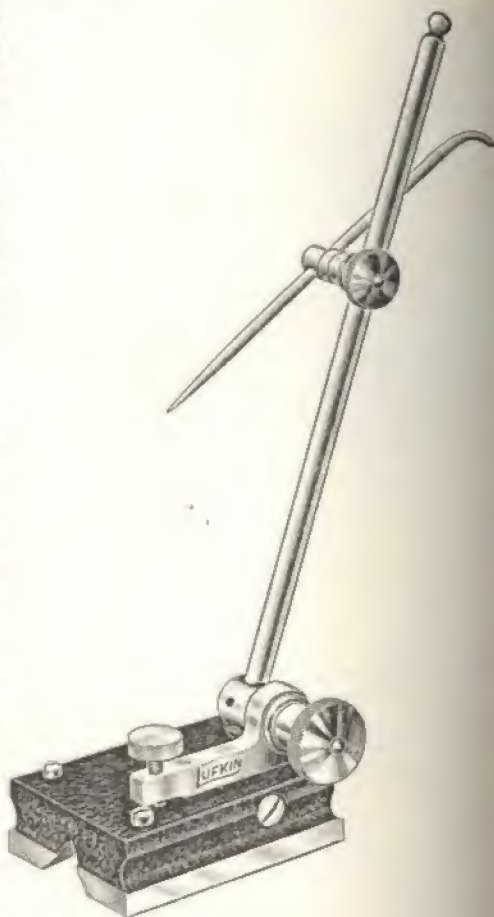
Cast Base

These Surface Gages have many improvements in design and construction, and, while lower in price than our No. 520 series, are of same size and same range.

The base is in green crystal finish and has two gage pins, for use as guides on linear work. This Tool is suitable for use on cylindrical as well as flat surfaces, as bottom and one end of base are grooved.

The spindle passes through the rotating head and can be set upright, at any angle, or so that scriber can be used below the base. For small work, the spindle may be removed and scriber inserted through the small hole in the rotating head.

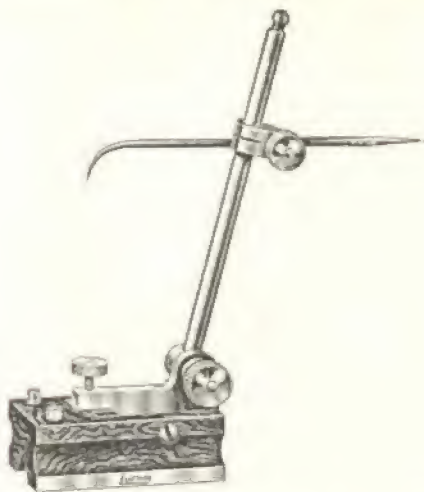
The fine adjustment, to get exact setting, is made with screw at one end, after the spindle has been clamped in approximate position. This screw works against a stiff spring at other end and gives greater range of adjustment than on any other similar Gage.



Length of spindle, as listed, does not include the base.

Bases of Nos. 522A, 522B and 522C are $3\frac{1}{4}$ inches long

Number		Price, Each
522A	Universal Surface Gage. With 9-inch spindle.....	\$3.50
522B	Universal Surface Gage. With 9 and 12-inch spindles.....	4.00
522C	Universal Surface Gage. With 12-inch spindle.....	3.70
	18-inch Spindle for any above..... Extra each	.65
	Indicator Attachment for any above—(A spindle clamp with $\frac{1}{4}$ inch hole for holding Indicator)..... Extra each	.90
Packing: One in a box. Weight each: Nos. 522A and 522C, 2 $\frac{1}{4}$ lbs.; No. 522B, 3 lbs.		



Toolmakers Universal Surface Gages

Hardened Base

These Surface Gages are especially suitable for light work. They have all the latest improvements in design and construction.

The base is well proportioned, is hardened, and is finished in mottled blue, with all measuring faces ground and polished. Bottom and one end of base are grooved for cylindrical work. Base has two gage pins that can be pushed down for use as guides on linear work.

The spindle passes through the rotating head and can be set upright, at any angle, or so that the scribe can be used below the base. For small work the spindle may be removed and the scribe inserted through the small hole for it in the rotating head. The holes through which spindle and scribe pass are kept in alignment at all times by small set screws.

The fine adjustment, to get exact setting, is made with the screw at one end, after the spindle has been clamped in the approximate position desired. This fine adjustment screw works against a stiff spring at the other end and allows greater range of adjustment than on any other similar Gage.

Length of spindle, as listed, does not include the base. The base takes very little space in the tool chest for it is but $1\frac{1}{2}$ inches wide, and its height including rotating head is $1\frac{1}{2}$ inches.

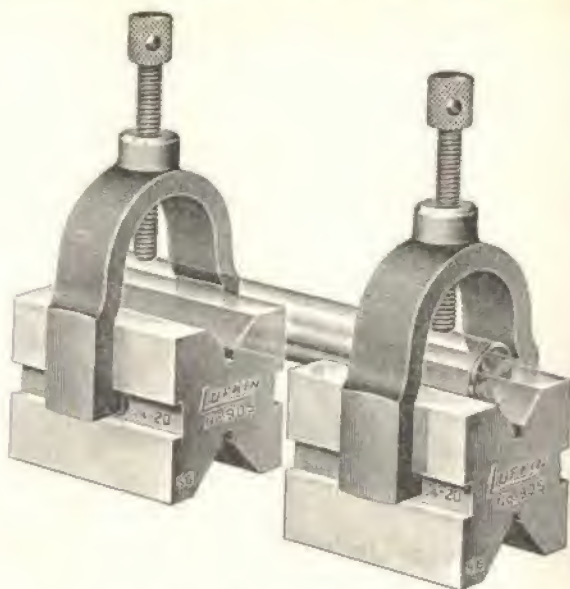
Bases of Nos. 521A, 521B and 521C are $2\frac{1}{4}$ inches long

Number		Price, Each
521A	Toolmakers Surface Gage. With 4-inch spindle.	\$4.10
521B	Toolmakers Surface Gage. With 4 and 7-inch spindles.	4.40
521C	Toolmakers Surface Gage. With 7-inch spindle.	4.15

Packing: One in a box

Weight each: No. 521A, 12 ozs.; No. 521B, 13 ozs.; No. 521C, 13 ozs.

ROSE TOOLS, INC.



V Blocks and Clamps

Hardened and Ground

V Blocks are designed for use where an extremely accurate set is required. They are especially useful in laying out work in connection with the surface plate or angle iron; milling or grinding work can be firmly held when clamped in the V's of the blocks.

The Blocks are made of tool steel, hardened and ground. The V's are ground central, parallel and square with the ends and sides. The Blocks are made and numbered in pairs, so the V grooves in each pair are always in alignment. The clamps are of steel, drop forged, making them strong and durable yet light weight.

A feature of these V Blocks is the tapped hole through the sides, particularly useful when using the blocks on an angle iron fastened to a lathe face plate or a magnetic chuck. By using a $\frac{1}{4}$ -20 screw, the Block can be securely fastened at any angle desired to the angle iron, without the use of other clamps which would interfere with the work. This applies to all layout work, lathe work, milling, drilling, grinding, etc.

Each Block is about $1\frac{5}{8}$ inches long and $1\frac{1}{4}$ inches square and has clamping capacity of one inch diameter.

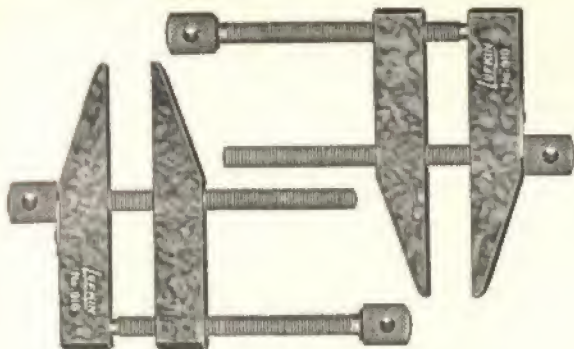
Number	Price Per Set
905 Set of V Blocks and Clamps. (2 blocks and 2 clamps per set).....	\$6.75

(Blocks sold only in sets as they are made in pairs)

Packing: One set in a box

Weight per set: $1\frac{3}{4}$ lbs.

Extra Clamps only for V Blocks. . . . Price, each \$0.90



Toolmakers Parallel Clamps

These Clamps are of steel, case-hardened, and are very useful for holding small work together in drilling, tapping, etc. They are so designed as to be strong and rigid and to insure a positive hold. Ends of the jaws are rounded to permit clamping under shoulders or in recesses.

Clip attachment prevents sliding of the loose jaw on the screw. Ours is a flat clip, flush with back of the jaw, which eliminates interference with fingers when opening and closing clamp.

Illustration Shows One Pair (2 Complete Clamps)

Number	Clamping Capacity	Length of Jaws	Price per Pair (2 Clamps)
910A Pair of Parallel Clamps.....	$\frac{3}{4}$ inch	$1\frac{5}{8}$ inch	\$1.40
910B Pair of Parallel Clamps.....	$1\frac{1}{4}$ inch	2 inch	1.70
910C Pair of Parallel Clamps.....	$1\frac{3}{4}$ inch	$2\frac{1}{2}$ inch	2.00
910D Pair of Parallel Clamps.....	$2\frac{1}{4}$ inch	3 inch	2.40
910E Pair of Parallel Clamps.....	$2\frac{3}{4}$ inch	4 inch	3.00
910F Pair of Parallel Clamps.....	$3\frac{1}{2}$ inch	5 inch	4.60

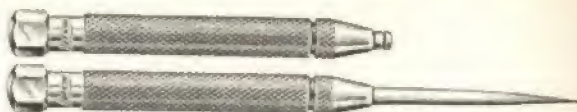
Packing: One pair (2 clamps) in a box

Weight per Pair: 910A, B, C, D, E, F, 3, 6, 10, 18, 30 and 50 ozs. respectively

Parts of Toolmakers Parallel Clamps

When ordering Jaws . . . Specify stock number of Clamp and "Jaw with tapped holes" or "Jaw with holes not tapped."

When ordering Screws . . . Specify stock number of Clamp and "Full threaded Screw" or "Smooth end Screw."



Pocket Scribes

Very handy tools for any mechanic. Scriber point is of best quality steel, properly tempered and with shank designed to hold it solidly in handle by means of knurled chuck. Handle is of steel tubing, knurled to afford secure hold, and nickel plated. Illustrations show Scriber open ready for use, also closed, i.e., with point reversed, inserted and locked into the handle. The hexagon head prevents rolling.

Number		Price Each
87A	Pocket Scriber. Dia. handle $\frac{1}{4}$ inch. Length point $2\frac{3}{8}$ inches.....	\$0.35
87B	Pocket Scriber. Dia. handle $\frac{3}{8}$ inch. Length point $2\frac{7}{8}$ inches.....	.50
	Points Only for Above Scribes. (Specify A or B).....	.15

Packing: Six in a box

NOTE: Blades of Screw Drivers Nos. 187A and 187B, listed page 219, will fit handles of Pocket Scribes 87A and B. On such Screw Driver Blades Only, specify "A" or "B," and for their prices see page 219.



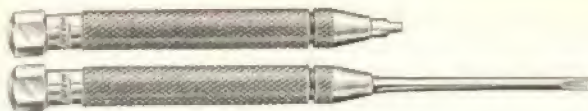
Scribes

These Scribes also are handy tools. Their points are of best quality steel, properly tempered. These points, as well as the stock, have knurled portions for solid finger grip. The stock is nickel plated and of size convenient to hold. All points fit either end of the stock and are threadedly engaged in the stock. The long bent point is particularly valuable in reaching through holes, etc.

Length of Scriber: With short bent point, 9 inches.
With long bent point, 12 inches.

Number		Price Each
88A	Scriber Complete. With 1 straight, 1 long and 1 short bent point.....	\$0.60
88B	Scriber. With 1 straight point and 1 short bent point.....	.45
	Points Only for above Scribes: (Straight Point.....)	.15
	(Short Bent Point.....)	.15
	(Long Bent Point.....)	.20

Packing: Six in a box



Pocket Screw Drivers

Handy vest pocket Screw Drivers. Blade is of best quality steel, properly shaped and tempered. Shank of blade together with knurled chuck of handle most firmly hold the blade, so it cannot come out or turn in the handle. Handle is of steel tubing, knurled to afford secure hold, and nickel plated. Illustrations show Screw Driver ready for use, also with point reversed, inserted and locked into the handle for convenience in carrying. The hexagon head prevents rolling.

Number		Price Each
187A	Screw Driver. Dia. handle $\frac{1}{4}$ inch. Length blade $2\frac{1}{2}$ inches.....	\$0.40
187B	Screw Driver. Dia. handle $\frac{3}{8}$ inch. Length blade 3 inches.....	.50
	Blades Only for above Screw Drivers. (Specify A or B).....	.15

Packing: Six in a box

NOTE: Points of Scribers Nos. 87A and 87B, listed page 218, will fit handles of Screw Drivers 187A and B. On such Scriber Points Only, specify "A" or "B," and for their prices see page 218.



Drive Pin Punches

Listed Individually, Also Set of 8 In Leatherette Case

These Punches are made of best quality tool steel. They are nicely shaped, hardened and polished. Body is knurled to afford good finger grip.

Number		Diameter of Point	Length of Punch	Price Each
72A	Drive Pin Punch.....	$\frac{1}{16}$ inch	$3\frac{3}{8}$ inches	\$0.25
72B	Drive Pin Punch.....	$\frac{3}{32}$ inch	$3\frac{1}{2}$ inches	.25
72C	Drive Pin Punch.....	$\frac{1}{8}$ inch	$3\frac{3}{4}$ inches	.25
72D	Drive Pin Punch.....	$\frac{3}{16}$ inch	4 inches	.25
72E	Drive Pin Punch.....	$\frac{1}{4}$ inch	$4\frac{1}{8}$ inches	.25
72F	Drive Pin Punch.....	$\frac{5}{16}$ inch	$4\frac{3}{8}$ inches	.25
72G	Drive Pin Punch.....	$\frac{3}{8}$ inch	$4\frac{5}{8}$ inches	.25
72H	Drive Pin Punch.....	$\frac{1}{2}$ inch	$4\frac{7}{8}$ inches	.25

72S Set of 8 Drive Pin Punches. In Leatherette Case... Price Per Set \$2.25
Contains one each of above Punches, 72A to 72H inclusive.

Packing: Nos. 72A to 72G, 12 in a box. No. 72H, 6 in a box

No. 72S, 3 Sets in a box

Weight: Set No. 72S, 12 ozs.

ROSE TOOLS, INC.



Center Punches

Listed Individually, Also Set of 6 in Leatherette Case

These Center Punches are made of fine quality tool steel. They are properly shaped and points carefully ground. These Punches are hardened and polished and have body knurled to afford good finger grip.

Number		Length of Punch	Diameter at Top of Tapered Point	Price Each
71AA	Center Punch,	3 $\frac{1}{8}$ inches	$\frac{3}{16}$ inch	\$0.25
71A	Center Punch,	3 $\frac{1}{2}$ inches	$\frac{5}{64}$ inch	.25
71B	Center Punch,	3 $\frac{7}{8}$ inches	$\frac{3}{32}$ inch	.25
71C	Center Punch,	4 $\frac{1}{4}$ inches	$\frac{7}{64}$ inch	.25
71D	Center Punch,	4 $\frac{5}{8}$ inches	$\frac{1}{12}$ inch	.25
71E	Center Punch,	5 inches	$\frac{3}{16}$ inch	.30

71S Set of 6 Center Punches. In Leatherette Case . . . Price Per Set \$1.75
Contains one each of above Punches, 71AA to 71E inclusive.

Packing: Nos. 71AA to 71D, 12 in a box

No. 71E, 6 in a box

No. 71S, 3 Sets in a box

Weight: Set No. 71S, 6 ozs.

Automatic Center Punch

With Adjustable Stroke

An Automatic Center Punch is almost indispensable on fine work and handy for all marking, as it assures accuracy and speed. With this tool but one hand is employed, as hammer is entirely unnecessary. Thus it can be most precisely placed, and slipping and the many other chances of error in the hammer method are avoided.

In the body of this Center Punch there is a simple mechanism, which, when tool is held upright on the work and downward pressure applied, automatically, at the will of the mechanic, strikes the blow. Set at any point, the tension of spring is constant, giving impressions of uniform depth and size.

The force of the blow is regulated by screwing the knurled cap. When completely down the blow is heaviest, as it is screwed upward it decreases. This Punch has an unusually wide range of adjustment, as required for controlling the blow for various metals.

Its diameter is one-half inch; its length, when set for medium stroke, five inches. The body of this Punch is knurled and grooved to give most positive grip. All working parts are properly hardened. Point is easily removed, ground and replaced. Extra points are offered.



Number		Price, Each
1671A	Automatic Center Punch.....	\$2.40
	Extra Points Only for above.....	.20

Packing: One in a box.

Weight each: 3 ounces.



Hold Downs

Made in Five Lengths—2 to 6 Inches

These Hold Downs are of best design to securely hold work flat and without distortion in a vise or on a machine bed. They are used where other methods of clamping are inconvenient and are especially handy for holding thin work.

Very valuable features of our Hold Downs are these: They not only clamp the work most securely but constantly force it downward against parallel or machine bed because both contact edges are properly tapered and there is a clearance step along entire length of front of the under side.

Our Hold Downs are of steel, hardened and ground. While made in five lengths, 2, 3, 4, 5 and 6 inches, all are of same size (width and thickness), so any of the lengths can be used together on long work.

Number		Length	Width, Inches	Price per Pair
902A	Hold Downs	2-inch	$\frac{25}{32}$	\$1.25
902B	Hold Downs	3-inch	$\frac{25}{32}$	1.40
902C	Hold Downs	4-inch	$\frac{25}{32}$	1.50
902D	Hold Downs	5-inch	$\frac{25}{32}$	2.00
902E	Hold Downs	6-inch	$\frac{25}{32}$	2.75

Packing: One pair in a box.

Weight per pair: 4 to 8 ounces.



Set of Tempered Steel Rules with Holder

These Rules and their Holder are especially suitable for measuring in small places where an ordinary rule would not enter. They are useful in general tool and die work and also wherever measuring is to be done in grooves, on narrow shoulders, in recesses, keyways, etc.

All Rules in this Set are thin, are made of tempered steel, machine divided, carefully ground and well finished. All are regularly furnished graduated one side 32nds, other side 64ths inch. (The $\frac{1}{2}$ and 1-inch rules can be furnished graduated 30ths and 100ths inch.)

Our Rule Holder is especially well suited to its work. It is four inches long, so gives good reach, and it will clamp thicknesses up to $\frac{1}{2}$ inch. At one end it has two slots for holding the rule, one at 30, the other at 45 degrees, and slight turn of knurled nut at other end rigidly clamps the rule. This will hold the rule at either 30 or 45 degrees and at right angles to the holder or when sharply cocked to either side.

Leatherette case, $2 \times 4\frac{1}{2} \times 1\frac{1}{4}$ inch, which contains Set No. 20S, is ideal for preventing these very small rules from being lost or misplaced and for protecting the rules and the holder.

Number		Price Each
20S	Set of Rules with Holder. In Leatherette Case. Includes rules of lengths: $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{3}{4}$ and 1-inch.....	\$3.00
2010	Rules Only. Lengths: $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{3}{4}$ and 1-inch. Always specify length as well as "No. 2010," as this stock number applies to each rule in the above Set. Price per Rule.....	.35
20	Holder Only, for above Rules .....	.75

Packing: One set in a box
Weight: Set No. 20S, ROSE TOOLS, INC.



Students Tool Set No. 1

For Students, Apprentices and Mechanics

This Set contains only those tools that are indispensable at the outset to the student or beginner, and all put up in a compact folding case convenient to carry to and from classes or shop.

Every tool in this Set is a standard one, identically same as those listed in this Catalog and sold to fine mechanics for their regular work. Thus these Precision Tools may well become a part of the more complete kit or chest of tools which the mechanic will require in his work to follow.

These tools are nicely arranged and held in the Leatherette Case, which folds to size $7\frac{1}{4} \times 5\frac{1}{4} \times 1$ -inch. Set complete with Case weighs $1\frac{1}{4}$ pounds.

Contents of Students Tool Set No. 1

One Each of the Following:

Stock Number		Described on Page
25C	6-inch Combination Square. (Blade with square and center heads).....	177
2110	6-inch Flexible Steel Rule.....	227
40	4-inch "Banner" Spring Divider.....	196
41	4-inch "Banner" Outside Spring Caliper.....	197
42	4-inch "Banner" Inside Spring Caliper.....	197
17	4-inch Firm Joint Hermaphrodite Caliper.....	200
71C	Center Punch.....	220
036	Center Gage.....	190

No. 1 Students Tool Set, with Case.....Price, per Set \$8.75

Packing: One set in a box

NOTE: More Complete Tool Set for Students—See page 223.

Students Tool Set No. 2

For Students, Apprentices and Mechanics



Where a more complete set of tools is desired by the student or apprentice, this one is recommended. It differs from our Set No. 1 in these ways:

A Micrometer is included. The Combination Square is larger. Other tools are of different pattern.

This Set also is put up in compact folding case, convenient to carry to and from classes or shop.

In this Set also, each tool is a standard one, identical with those sold to fine mechanics for their regular work. Therefore these Precision Tools commonly are the nucleus of the complete set required in later work.

The Leatherette Case, in which these tools are nicely arranged and held, folds to 10 $\frac{1}{4}$ x6x1-inch. Set complete with Case weighs 2 pounds.

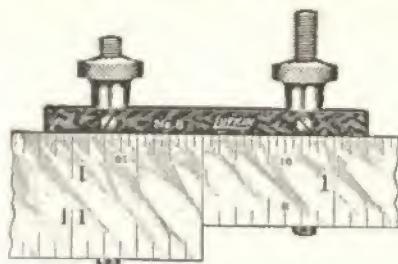
Contents of Students Tool Set No. 2

One Each of the Following:

Stock Number		Described on Page
1911	1-inch Micrometer. With enameled frame.....	157
25C	9-inch Combination Square. (Blade with square and center heads).....	177
2110R	6-inch Flexible Steel Rule.....	227
140	4-inch Toolmakers Spring Divider.....	194
141	4-inch Toolmakers Outside Spring Caliper.....	195
142	4-inch Toolmakers Inside Spring Caliper.....	195
A-17	4-inch Firm Joint Hermaphrodite Caliper.....	200
71D	Center Punch.....	220
36	Center Gage.....	190

No. 2 Students Tool Set, with Case Price, per Set \$19.50

Packing: One set in a ROSE TOOLS, INC.



Rule Clamp

A Rule Clamp is used when a measurement greater than the length of any single rule at hand must be accurately taken. Our Rule Clamp firmly holds two rules end to end as shown above. As the clamp bolts are independently adjustable (by means of knurled thumb nuts) this Clamp will join two rules whether they be of same or different width or thickness. The width capacity is $1\frac{1}{4}$ inches. This device is in mottled blue finish. It is popular because the ordinary tool chest will not accommodate rules over 12 inches long. Packed one in a box.

No. 8 Rule Clamp.....Price, Each \$0.60

Graduations of Steel Rules

English (inch) Measure

In connection with Steel Rules or Scales, shown on pages following, we detail below those combinations of markings which are known by Graduation Numbers.

We catalog also, on the following pages, Rules in various other English graduations, also Rules marked Metric only and Metric-English.

No. 1 Graduation

One Edge: 10-20-50-100ths.
One Edge: 12-24-48ths.
One Edge: 16-32-64ths.
One Edge: 14-28ths.

No. 2 Graduation

One Edge: 10-20-50-100ths.
One Edge: 12-24-48ths.
One Edge: 16-32-64ths.
One Edge: 8ths.

No. 3 Graduation

One Edge: 32nds.
One Edge: 64ths.
One Edge: 10ths.
One Edge: 50ths.

No. 4 Graduation

One Edge: 64ths.
One Edge: 32nds.
One Edge: 16ths.
One Edge: 8ths.

No. 5 Graduation

One Edge: 32nds.
One Edge: 64ths.
One Edge: 10ths.
One Edge: 100ths.

No. 7 Graduation

One Edge: 64ths.
One Edge: 32nds.
One Edge: 16ths.
One Edge: 100ths.

No. 10 Graduation

One Edge: 32nds.
One Edge: 64ths.

No. 11 Graduation

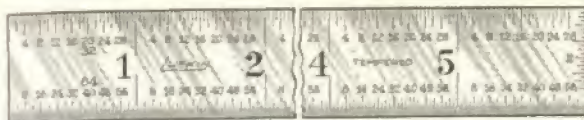
One Edge: 64ths.
One Edge: 100ths.

No. 12 Graduation

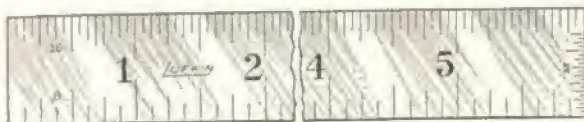
One Edge: 50ths.
One Edge: 100ths.

No. 16 Graduation

One Edge: 32nds.
One Edge: 64ths.
One Edge: 50ths.
One Edge: 100ths.



Showing "Readable" Graduations



Showing End Graduations

Spring Tempered Steel Rules

Machine Divided.

Approximate Thickness $\frac{3}{64}$ ths Inch.

Rules of this weight are extensively used. All Rules listed below are carefully ground and graduated and have clear, dark lines and figures, easy to read. All are graduated both edges of both sides. Prices of all appear at the foot of the page.

WITH "READABLE" GRADUATIONS

Number

2204R No. 4 Graduation: 8ths, 16ths, 32nds, 64ths inch.

Lengths: 1 to 48 inches.

"Readable" Graduations on all lengths: 64ths numbered every 8th division, 32nds numbered every 4th division.

End Graduations on 2 to 24 inch lengths: One end of both sides graduated to 32nds.

2207R No. 7 Graduation: 16ths, 32nds, 64ths, 100ths inch.

Lengths: 1 to 48 inches.

"Readable" Graduations on all lengths: 64ths numbered every 8th division, 32nds numbered every 4th division, 100ths numbered every 10th division.

WITHOUT "READABLE" GRADUATIONS

Number

2204 No. 4 Graduation: 8ths, 16ths, 32nds, 64ths inch.

Lengths: 1 to 48 inches.

End Graduations on 2 to 24 inch lengths: One end of both sides graduated to 32nds.

2201 No. 1 Graduation: 10ths, 20ths, 50ths, 100ths; 12ths, 24ths, 48ths; 16ths, 32nds, 64ths; 14ths, 28ths inch.

Lengths: 6 and 12 inch only. For gear cutting work.

2202 No. 2 Graduation: 10ths, 20ths, 50ths, 100ths; 12ths, 24ths, 48ths; 8ths; 16ths, 32nds, 64ths inch.

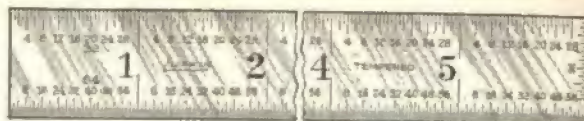
Lengths: 6 and 12 inch only.

Length, inches	1	2	3	4	6	9	12	18	24	36	48
Price, each	\$.30	\$.45	\$.60	\$.75	\$.90	\$ 1.35	\$ 1.65	\$ 2.60	\$ 3.25	\$ 7.00	\$ 10.00
Approx. width inches	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{4}$	$1\frac{1}{4}$	$1\frac{1}{4}$	$1\frac{1}{4}$
Wt. doz. lbs.	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	$1\frac{1}{2}$	2	$4\frac{1}{2}$	6	9	12

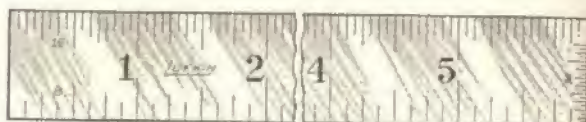
Packing: 12 inches and under, six in a box; others, one in a package

NOTES: Extra Heavy Rule in No. 4 Graduation—See No. 2404, page 230.
Stainless Steel Rule, No. 2204R Pattern—See No. 2204R, page 228.

ROSE TOOLS, INC.



Showing "Readable" Graduations



Showing End Graduations

Semi-Flexible Steel Rules

Machine Divided. "Readable" Graduations.

Approximate Thickness $\frac{1}{50}$ th Inch

These also are spring tempered Rules, but semi-flexible. They are of same widths as our stiff (No. 2204R) Steel Rules, but of weight between those and our full flexible line. Markings and figures are dark and clear, easy to read, and these Rules are carefully ground and graduated. They are marked both edges of both sides.

Number

2604R No. 4 Graduation: 8ths, 16ths, 32nds, 64ths inch.

Lengths: 2 to 12 inches.

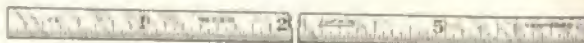
"Readable" Graduations on all lengths: 64ths numbered every 8th division, 32nds numbered every 4th division.

2607R No. 7 Graduation: 16ths, 32nds, 64ths, 100ths inch.

Lengths: 2 to 12 inches.

"Readable" Graduations on all lengths: 64ths numbered every 8th division, 32nds numbered every 4th division, 100ths numbered every 10th division.

Length, inches	2	3	4	6	9	12
Price, each	\$0.45	\$0.60	\$0.75	\$0.90	\$1.35	\$1.65
Approx. width, inches	$\frac{1}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1
Weight doz., lbs.	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	1



Narrow Steel Rules

Machine Divided.

Approximate Width $\frac{3}{16}$ ths Inch, Thickness $\frac{3}{64}$ ths Inch

Spring tempered stiff Rules, but $\frac{3}{16}$ inch wide, hence easily inserted in small openings. These Rules are carefully ground and graduated and have clear, dark lines and figures. They are marked on one edge of each side. They are interchangeable with the blades of Depth Gages Nos. 509, 510 and 511, shown pages 172 to 174.

Number

2310 Narrow Steel Rule. No. 10 Graduation: 32nds and 64ths inch.

2311 Narrow Steel Rule. No. 11 Graduation: 64ths and 100ths inch.

Length, inches	4	6	9	12
Price, each	\$0.75	\$0.90	\$1.35	\$1.65
Wt. doz., lbs.	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{5}{8}$

Packing: Six in a box



Full Flexible Steel Rules

Machine Divided.

Approximate Thickness $\frac{1}{64}$ th Inch.

Thin and very flexible, spring tempered Steel Rules. Carefully ground, and are graduated one side only, the lines and figures being dark and clear, easy to read. The Rules 12 inches and under in length are approximately $\frac{1}{2}$ inch wide, the others $\frac{3}{4}$ inch.

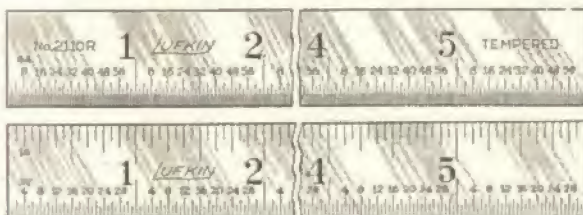
Number

2110 No. 10 Graduation: 32nds and 64ths inch. Lengths: 1 to 48 inches.
2111R No. 11 Graduation: 64ths and 100ths inch. Lengths: 6 and 12 inch only.
 "Readable" Graduations: 64ths numbered every 8th division, 100ths every 10th division.

2112 No. 12 Graduation: 50ths and 100ths inch. Lengths: 6 and 12 inch only.

Length, inches	1	2	3	4	6	9	12	18	24	36	48
Price, each . . .	\$0.30	\$0.45	\$0.60	\$0.75	\$0.90	\$1.35	\$1.65	\$2.60	\$3.25	\$7.00	\$10.00
Wt. doz., lbs . .	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{1}{2}$	$1\frac{1}{2}$	$2\frac{1}{4}$	3	$4\frac{1}{2}$

Packing: 12 inches and under, six in a box; others, one in a package



Full Flexible Steel Rule

Machine Divided. "Readable" Graduations. Approx. Thickness $\frac{1}{64}$ th Inch

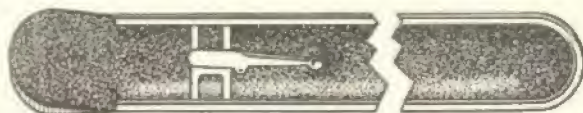
Thin, very flexible, spring tempered, marked both sides. "Readable" Graduations, 64ths numbered every 8th division and 32nds every 4th. Carefully ground and graduated and has clear, dark lines and figures, easy to read. The graduations most used appear on lower edge, 64ths one side, 32nds other side. 16ths upper edge of 32nds side. This Rule is approximately $\frac{1}{2}$ inch wide and made in 6-inch length only.

Number

2110R 6-inch. Graduation: 16ths, 32nds, 64ths inch. Price, Each \$0.90

Packing: Six in a box. Wt. per doz.: $\frac{1}{4}$ lb.

NOTE: Stainless Steel Rule, No. 2110R Pattern—See No. S-2110R, page 228.



Rule Cases with Pocket Clip

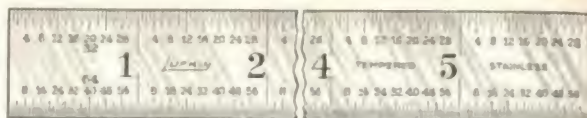
Genuine Leather Rule Cases, with metal-bound edges, and having pocket clip or spring clasp. Made only for Rules 6 inches long

Always Specify $\frac{1}{2}$ or $\frac{3}{4}$ Inch

Case With Clip. (For rules not over $\frac{1}{2}$ inch wide.) . . . Price, each \$0.15

Case With Clip. (For rules not over $\frac{3}{4}$ inch wide.) . . . Price, each .15

ROSE TOOLS, INC.



Stainless Steel Rules

Machine Divided. "Readable" Graduations. Approx. Thickness $\frac{3}{64}$ ths Inch

Genuine Stainless Steel, rust and stain proof. Otherwise same as No. 2204-R, i.e., spring tempered, carefully ground, clearly graduated on both edges of both sides. "Readable" Graduations (64ths numbered every 8th division, 32nds every 4th division). Made only in 6 and 12-inch. Width: 6-inch, $\frac{3}{4}$ inch; 12-inch, 1 inch.

Number	Graduation No. 4	Price, Each
S-2204R 6-inch Stainless Rule. 8ths, 16ths, 32nds, 64ths inch.....		\$1.35
S-2204R 12-inch Stainless Rule. 8ths, 16ths, 32nds, 64ths inch.....		2.65



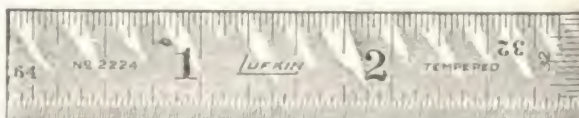
Flexible Stainless Steel Rule

Machine Divided. "Readable" Graduations. Approx. Thickness $\frac{1}{64}$ th Inch

* Genuine Stainless Steel, rust and stain proof. Otherwise practically same as No. 2110-R. Thin, spring tempered, clearly marked both sides. "Readable" Graduations (64ths numbered every 8th division, 32nds numbered every 4th division). Carries 64th lower edge one side, other side 32nds on lower and 16ths on upper edge. Thus the two graduations most used fall on lower edge.

This Rule is approximately $\frac{1}{2}$ inch wide and made in 6-inch length only

Number	Graduation	Price, Each
S-2110R 6-inch Flexible Stainless Rule. 16ths, 32nds, 64ths inch.....		\$1.35



Beveled Steel Rules, Spring Tempered

Machine Divided. One Edge Beveled. Approximate Thickness $\frac{3}{64}$ ths Inch

Beveled edge of these Rules brings the fine graduation close to the work. They are carefully ground and graduated, lines and figures being dark and easy to read. Approximate width of the 6-inch is $\frac{3}{4}$ inch, of the 12-inch, 1 inch.

Number	Length, inches	Price, each
2224	No. 4 Graduation: 8ths, 16ths, 32nds, 64ths inch. (64ths on the bevel) Lengths: 6 and 12-inch only. End Graduations, 32nds one end both sides.	
2227	No. 7 Graduation: 16ths, 32nds, 64ths, 100ths inch. (100ths on the bevel.) Lengths: 6 and 12-inch only.	

Length, inches	6	12
Price, each	\$0.90	\$1.65

Packing: Six in a box



Full Flexible Steel Rules

Decimal Graduations,

Especially Suitable for the Aircraft Industry

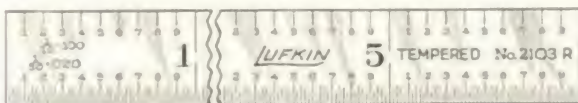
Machine Divided. "Readable" Graduations. Approx. Thickness $\frac{1}{64}$ th Inch.

Carrying decimals (10ths and 100ths of an inch), these Rules eliminate converting to other fractions, hence are popular in industries such as aircraft, where decimals are extensively used. On opposite side they bear 32nds and 64ths inch. Marked both edges of both sides and all four graduations "Readable" (10ths numbered every division, 100ths every 10th division, 32nds every 4th and 64ths every 8th division).

These are very flexible, spring tempered Rules, carefully ground and graduated, with clear, dark lines and figures. The 6 and 12-inch are approximately $\frac{1}{2}$ inch wide; the 18 and 24-inch are $\frac{3}{4}$ inch, and slightly heavier.

All Have No. 5 Graduation: 32nds, 64ths, 10ths, 100ths inch

No. 2105R	Length, Inches	6	12	18	24
	Price, each.	\$0.90	\$1.65	\$2.60	\$3.25



Full Flexible Steel Rule

Machine Divided. "Readable" Graduations. Approx. Thickness $\frac{1}{64}$ th Inch.

Facilitates measurement where dimensions are in decimals, eliminating necessity of converting decimals into fractions. A flexible, spring tempered Rule, carefully ground and graduated, with clear, dark lines and figures, easy to read. Marked both edges of both sides, with "Readable" Graduations throughout (64ths numbered every 8th division, 32nds every 4th division, 10ths every division, and 50ths every 5th division).

This Rule is approximately $\frac{1}{2}$ inch wide, and is made in 6-inch length only.

No. 2103R 6-inch. No. 3 Graduation: 32nds, 64ths, 10ths, 50ths inch. Each \$0.90



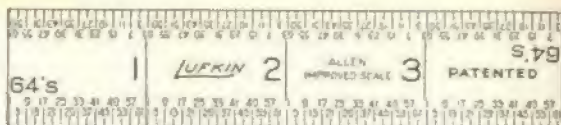
Semi-Flexible Steel Rule

Machine Divided. "Readable" Graduations. Approx. Thickness $\frac{1}{50}$ th Inch.

Facilitates measurement where dimensions are in decimals, eliminating necessity of converting decimals into fractions. This is a spring tempered, semi-flexible Steel Rule carrying same graduations as the one above. It also has graduations "Readable" on all four edges. It is carefully ground and graduated, lines and figures are dark, clear and easy to read.

This Rule is approximately 1 inch wide, and is made in 12-inch length only.

No. 2603R 12-inch. No. 3 Graduation: 32nds, 64ths, 10ths, 50ths inch. Each \$1.65



"Allen" Improved Semi-Flexible Steel Rule

Easiest to Read. Machine Divided. Approximate Thickness $\frac{1}{50}$ th Inch.

This Rule is unique in its marking and numbering. It will measure to 64ths inch, yet the closest graduations upon it are $\frac{1}{2}$ inch apart, and all odd 64ths are lines $\frac{1}{2}$ inch apart, and every one of these being numbered, it is the easiest of all Rules to read to 64ths.

One side is marked in the standard way, one edge 16ths, other edge 32nds inch, the taking care of all the even 64ths. Opposite side bears the odd 64ths only. Its one edge carries odd 64ths every fourth 64th commencing with 1, numbered 1, 5, 9, 13, etc., in each inch. Other edge bears the remaining odd 64ths, these being 3, 7, 11, 15, etc., and so numbered. Made in 6-inch length only.

No. 2608 6-inch "Allen" Steel Rule. Width: $\frac{3}{4}$ inch..... Price, each \$0.90



Spring Tempered Steel Rules

English-Metric. Machine Divided. Approximate Thickness $\frac{3}{64}$ ths Inch.

No. 3227 Marked: One side 16ths, 32nds, 64ths; 10ths, 20ths, 50ths, 100ths inch.

Other side, one edge millimeters; other edge $\frac{1}{2}$ millimeters.

Length, inches	4	6	9	12
Price, each	\$0.75	\$0.90	\$1.35	\$1.65
Approx. width, inches	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1



Heavy Spring Tempered Steel Rules

Without Hook.

With Hook.

Machine Divided. Approximate Thickness $\frac{1}{10}$ th Inch, Width $1\frac{1}{2}$ Inches.

Wider, stiffer, and offered in lengths longer than our standard weight steel rules. Popular in factories and wherever 3 to 6-foot measurements must be precisely taken.

These Rules are marked both edges of both sides. They are carefully ground and graduated, and have clear, dark lines and prominent figures, easy to read.

Hook of H-2404 Rules is of hardened steel, and is of same pattern as illustration H-2204R appearing next page. It is quickly removed by giving eccentric stud a half turn, and the rule is then, for use, same as those without hook. Removed, the hook can be set to extend from the other edge of the rule.

All Have No. 4 Graduation: 8ths, 16ths, 32nds, 64ths inch.

WITHOUT HOOK

WITH REMOVABLE HOOK

No. 2404 36-inch.	Price, each	\$ 7.00	No. H-2404 36-inch.	Price, each	\$8.00
No. 2404 48-inch.	Price, each	10.00	No. H-2404 48-inch.	Price, each	11.00
No. 2404 60-inch.	Price, each	20.00	No. H-2404 60-inch.	Price, each	21.00
No. 2404 72-inch.	Price, each	24.00	No. H-2404 72-inch.	Price, each	25.00

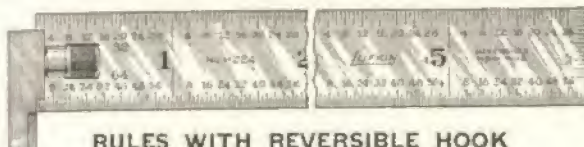
Weight each: 36-inch $1\frac{1}{4}$ lbs.; 48-inch $2\frac{1}{4}$ lbs.; 60-inch $2\frac{3}{4}$ lbs.; 72-inch $3\frac{1}{4}$ lbs.

Hook Rules

Machine Divided.

Spring Tempered Steel.

Steel Rules similar to those listed on other pages, but with Hook. Hooks are of hardened steel, sturdy and set securely. All Rules on this page are carefully ground and machine divided, having clear, dark markings, easy to read. On those under 18 inches long the zero of all graduations is at same end, so all measurements begin at inside of hook. "Readable" Graduation means 64ths numbered every 8th division, 32nds every 4th division. "End Graduation" means one end of both sides graduated to 32nds.



RULES WITH REVERSIBLE HOOK

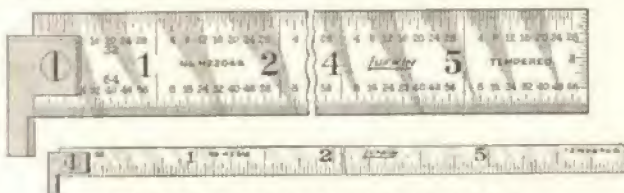
Approximate thickness $\frac{3}{64}$ ths inch

This Hook, without removing any parts, can be changed to any of the four graduations and read from zero. This is done very readily by hand, no tool necessary. Simply loosen thumb screw until slot in hook clears the Rule, turn hook and tighten thumb screw.

No. H-224 No. 4 Graduation: 8ths, 16ths, 32nds, 64ths inch.

With "Readable" and End Graduations.

Length, inches	6	9	12
Price, each	\$1.50	\$2.00	\$2.40
Approx. width rule, inches	$\frac{3}{4}$	$\frac{7}{8}$	1



RULES WITH REMOVABLE HOOK

Hooks of these Rules are quickly removed by giving eccentric stud a half turn. The Rules are then, for use, same as those without hook. Removed, these Hooks can be reversed, i.e., on all lengths under 18 inches, will measure from zero on all graduations. The Narrow Pattern Rules are interchangeable with blade of our Depth Gage H-511, page 173.

STANDARD PATTERN RULES WITH REMOVABLE HOOK

Approximate thickness $\frac{3}{64}$ ths inch

No. H-2204R No. 4 Graduation: 8ths, 16ths, 32nds, 64ths inch.

"Readable" Graduations on all lengths. End Graduations on 6 to 24-inch lengths.

Length, inches	6	9	12	18	24	36
Price, each	\$1.25	\$1.75	\$2.15	\$3.10	\$3.75	\$7.65
Approx. width, inches	$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{4}$	$1\frac{1}{4}$	$1\frac{1}{4}$

NARROW PATTERN RULES WITH REMOVABLE HOOK

Approximate width $\frac{3}{16}$ ths inch, thickness $\frac{3}{64}$ ths inch

No. H-2310 No. 10 Graduation: 32nds and 64ths inch.

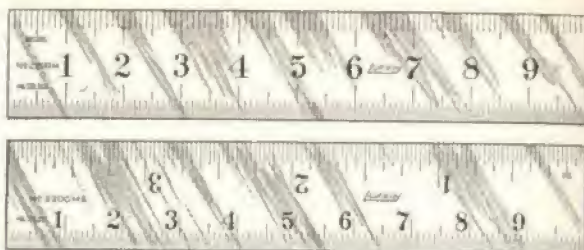
Length, inches	4	6	9	12
Price, each	\$1.00	\$1.20	\$1.65	\$2.00

Packing: 12 inches and under, three in a box; others, one in a package

NOTES: Heavy Steel Rules with Hook—See No. H-2404, page 230.

Hook Rules Marked Metric and English—Furnished at same prices as rules of corresponding lengths marked English only. Specify as: H-2200M, H-2300M, and H-2200ME, H-2300ME.

ROSE TOOLS, INC.



Metric and Metric-English Steel Rules

Machine Divided.

Spring Tempered.

All Rules listed on this page are of high quality, carefully ground and graduated, and having clear, dark lines and figures, easy to read.

Stiff Spring Tempered Rules

Approximate thickness 1 millimeter ($\frac{3}{64}$ ths inch)

- No. 2200M Marked Both Sides: Three edges in mm., one edge in $\frac{1}{2}$ mm.
 No. 2200ME Marked Both Sides: One side mm., and 64ths inch;
 One side $\frac{1}{2}$ mm., and 32nds inch.

Length	5 cm.	10 cm.	15 cm.	20 cm.	30 cm.	50 cm.	1 meter
Price, each	\$0.55	\$0.75	\$0.90	\$1.20	\$1.65	\$2.60	\$10.00
Approx. width in mm.	12	12	18	21	24	32	32
Wt. per doz., lbs.	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	$1\frac{1}{2}$	2	5	10

Full Flexible Spring Tempered Rules

Approximate thickness $\frac{1}{10}$ ths mm. ($\frac{1}{64}$ th inch)

- No. 2100M Marked One Side Only: Upper edge mm., lower edge $\frac{1}{2}$ mm.
 No. 2100ME Marked One Side Only: Upper edge $\frac{1}{2}$ mm., lower edge 64ths inch.

Length	5 cm.	10 cm.	15 cm.	20 cm.	30 cm.	50 cm.
Price, each	\$0.55	\$0.75	\$0.90	\$1.20	\$1.65	\$2.60
Approx. width in mm.	12	12	12	12	12	18
Wt. per doz., lbs.	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	2

Narrow Pattern Spring Tempered Rules

Approximate width 5 mm. ($\frac{3}{16}$ ths inch); Thickness 1 mm. ($\frac{3}{64}$ ths inch)

- No. 2300M Marked Both Sides: One edge, one side mm., other side $\frac{1}{2}$ mm.
 No. 2300ME Marked Both Sides: One edge, one side $\frac{1}{2}$ mm., other side 64ths inch

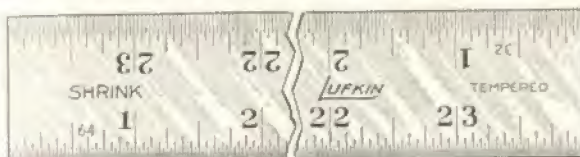
Length	10 cm.	15 cm.	20 cm.	30 cm.
Price, each	\$0.75	\$0.90	\$1.20	\$1.65
Wt. per doz., lbs.	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{3}{8}$

Packing: Rules 30 cm. and under..... Six in a box
 All other lengths..... One in a package

NOTE: English-Metric 4 to 12-Inch Rules—See No. 3227, page 230.

Steel Shrink Rules

This page is confined to Spring Tempered Steel Shrink Rules. Graduations throughout these Rules allow for the shrinkage indicated. These Rules are extensively used by patternmakers, foundry workers and others. All are high grade, accurate, machine divided Rules, suitable alike for common and for close work. They are carefully ground and graduated, have clear, dark lines and figures, easy to read, and are most durable.



STEEL SHRINK RULES

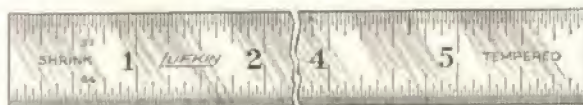
Machine Divided. Approximate Thickness $\frac{3}{64}$ ths Inch.
No. 4 Graduation: 8ths, 16ths, 32nds, 64ths Shrinkage Inch

Always Specify Length as Well as Stock Number

No.	Shrink Per Ft.	No.	Shrink Per Ft.	No.	Shrink Per Ft.
83A.....	$\frac{1}{16}$ inch	83F.....	$\frac{3}{16}$ inch	83P.....	$\frac{9}{64}$ inch
83B.....	$\frac{1}{12}$ inch	83G.....	$\frac{1}{4}$ inch	83R.....	$\frac{5}{32}$ inch
83C.....	$\frac{1}{10}$ inch	83H.....	$\frac{5}{16}$ inch	83S.....	$\frac{7}{32}$ inch
83D.....	$\frac{3}{32}$ inch	83J.....	$\frac{7}{16}$ inch	83T.....	$\frac{9}{32}$ inch
83E.....	$\frac{1}{8}$ inch	83K.....	$\frac{3}{8}$ inch	83W.....	$\frac{11}{32}$ inch
		83L.....	$\frac{1}{2}$ inch	83Y.....	$\frac{13}{32}$ inch

Length	6-inch	12-inch	24-inch
Price, each.....	\$1.00	\$2.10	\$4.25
Approx. width, inches.....	$\frac{3}{4}$	1	$1\frac{1}{4}$
Weight, each.....	1 oz.	$2\frac{1}{2}$ ozs.	6 ozs.

Packing: 6 and 12-inch Rules, six in a box; 24-inch, one in a package



FLEXIBLE STEEL SHRINK RULES

Machine Divided. Approximate Thickness $\frac{1}{64}$ th Inch.

No. 10 Graduation: 32nds and 64ths Shrinkage Inch

(Graduated one side only, lower edge 64ths, upper edge 32nds.)

No.	Shrink Per Ft.	Length	Wt., Each	Width	Price, Each
2183E	$\frac{1}{8}$ inch	6-inch only	1 oz.	$\frac{1}{2}$ inch	\$1.00
2183F	$\frac{3}{16}$ inch	6-inch only	1 oz.	$\frac{1}{2}$ inch	1.00

Notes: Metric Shrink Rules:

No. 83M 30 cm. Shrinkage of 1 mm to 100 mm.....Each \$2.10

No. 83MM 30 cm. Shrinkage of 1 mm to 50 mm.....Each 2.10

Shrink Blades for Combination Squares—See page 182.

Average Shrinkage of Castings

Metal	Shrinkage Per Foot	Metal	Shrinkage Per Foot
Cast Iron.....	$\frac{1}{8}$ inch	Aluminum.....	$\frac{3}{16}$ inch
Malleable Iron.....	$\frac{1}{8}$ inch	Copper.....	$\frac{3}{16}$ inch
Steel.....	$\frac{1}{4}$ inch	Lead.....	$\frac{5}{16}$ inch
Brass.....	$\frac{3}{16}$ inch	Zinc.....	$\frac{5}{16}$ inch

ROSE TOOLS, INC.

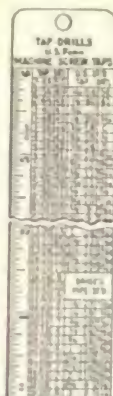


Figure 1

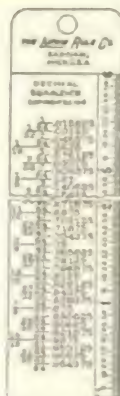


Figure 2

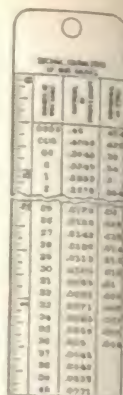


Figure 3

Mechanics Steel Reference Tables

These Tables are especially handy for machinists, toolmakers and diemakers, as they carry valuable information required in daily work. They are convenient also for anyone having occasion to refer to wire gages, decimal equivalents of common fractions, or tap and drill sizes.

Made of flexible spring steel, $1\frac{1}{4}$ inches wide, $6\frac{3}{4}$ inches long, and having hole at upper end. Machine divided, with clear dark figures and lines, easy to read. In addition to tables, both Nos. 97½ and 98 carry on each side a 6-inch graduated scale.

No. 97½ Reference Table. Marked Both Sides as Figures 1 and 2. (Carries tap and drill sizes and decimal equivalents of fractions, and 6-inch scales, as detailed below).....Price, each \$0.90

No. 98 Reference Table. Marked Both Sides as Figures 2 and 3. (Carries decimal equivalents of wire gages and fractions, and 6-inch scales, as detailed below).....Price, each \$0.90

Figure 1. Tables of U. S., A. S. M. E., S. A. E., and Briggs Pipe Standard machine screw tap and drill sizes, including fractional and numbered sizes. Also a 6-inch scale to 32nds, "Readable" Graduations.

Figure 2. Table of decimal equivalents of fractions in 64ths from 1/64th to 63/64ths. Also a 6-inch scale to 64ths, "Readable" Graduations.

Figure 3. Table of Decimal equivalents of wire gages. Also a 6-inch scale to 32nds, "Readable" Graduations.

Weight per doz.: 12 ozs. Packing: Six in a box

NOTE: Leather Cases for Nos. 97½ and 98—Furnished at small extra charge.



The Decimeter Rule

A Key to the Metric System

1 Decimeter Long. 1 Centimeter Wide. 1 Millimeter Thick.

This Rule gives a most comprehensive visual demonstration of metric sizes. It is of tempered steel, machine divided. It is marked one edge, one side, in centimeters and millimeters. It carries on both sides interesting facts regarding the metric system.

Furnished with Metal-Bound Leather Case

No. 99 Decimeter Rule. Length: 10 centimeters (1 decimeter).....Price, each \$0.50



Tool Chest

Quarter Sawed Oak

Length: $19\frac{3}{4}$ inches.

Height: $12\frac{1}{2}$ inches.

Width: $9\frac{1}{4}$ inches.

A sturdy, fine appearing, portable Tool Chest for toolmakers and machinists. It is roomy and has top compartment and seven drawers.

The Chest is of selected, quarter sawed oak, handsomely finished; the same is true of the drawer fronts. Edges of Chest are slightly rounded, corners metal covered. Has heavy metal fittings, nicely nickel plated.

The top compartment, also its lid, and all drawer bottoms are covered with green felt. Drawers are lock cornered and glued, have heavy metal bottoms, and run on hardwood slides. Lid is securely hinged. It has mirror and spring clip, handy for holding catalog, circulars, reference tables, etc.

Front lid is end-hinged and, when open, slides under bottom drawer. It locks automatically when Chest is closed.

Heavy chest lock securely locks all compartments. Two keys are supplied. This lock has snap latch or loop and the Chest has four other snap latches, one at each end and two on front. Top lid has extra strong, leather covered carrying handle.

Inside Dimensions of Tool Chest

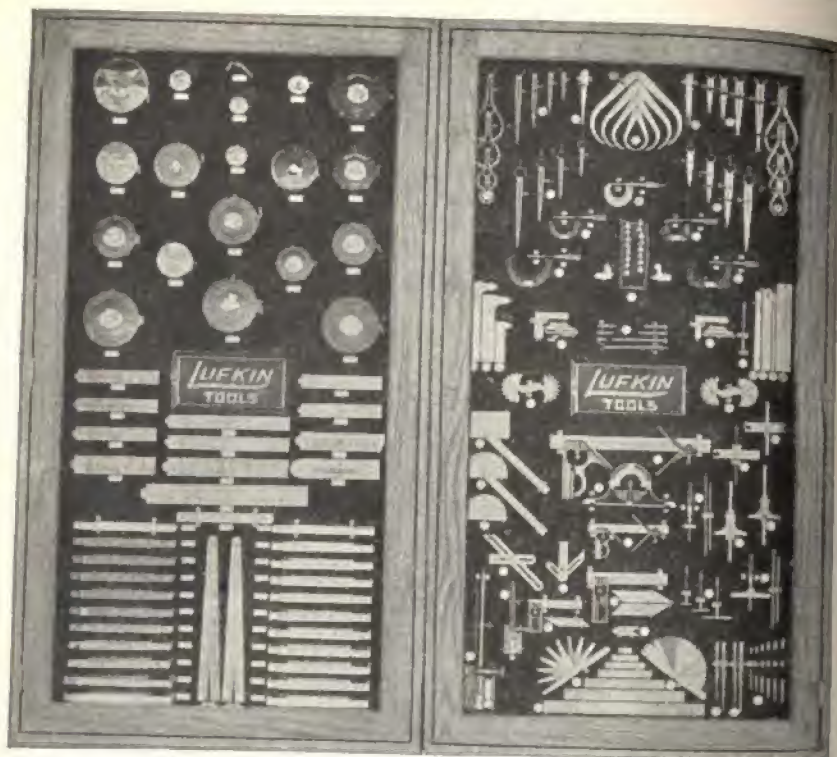
Top compartment with recessed lid	$18\frac{1}{16} \times 8\frac{5}{16} \times 3\frac{1}{4}$ inches.
Length short drawers	$8\frac{7}{16}$ inches.
Length long drawers	$18\frac{1}{16}$ inches.
Depth drawers	$7\frac{3}{16}$ inches.

	1st	2nd	3rd	4th	5th	6th	7th
Height of drawers, in inches	$1\frac{1}{16}$	$2\frac{1}{16}$	$1\frac{1}{16}$	$1\frac{1}{16}$	$1\frac{3}{16}$	$1\frac{1}{16}$	$2\frac{1}{16}$
No. 381 Tool Chest	Price, Each						\$20.00

Each Chest securely packed for shipment.

Shipping weight, each: 20 lbs.

ROSE TOOLS, INC.



DISPLAY CASES AND PANELS of TAPES—RULES—PRECISION TOOLS

As an aid to our Trade we are pleased to mount our goods in Display Cases or on Panels. We supply such mounted assortments confined to Measuring Tapes, or Rules, or Precision Tools; we gladly also make up combination assortments of any two or all three of these lines.

We are prepared to build the cases or panels to fit the wall or other store space available. We also mount goods on fixtures sent us by Dealers.

The items to appear displayed may be selected by the Distributor to meet his requirements, or, if desired, we will make the selections. We nicely arrange and securely mount the items.

Cases can be furnished with lock and with hinged door fitted for glass, to keep the display in best condition.

These Make Attractive Displays, Promoting Sales.

Decimal Equivalents of 8ths, 16ths, 32nds and 64ths of an inch

8ths

$$\frac{1}{8} = .125$$

$$\frac{2}{8} = .250$$

$$\frac{3}{8} = .375$$

$$\frac{4}{8} = .500$$

$$\frac{5}{8} = .625$$

$$\frac{6}{8} = .750$$

$$\frac{7}{8} = .875$$

16ths

$$\frac{1}{16} = .0625$$

$$\frac{2}{16} = .125$$

$$\frac{3}{16} = .1875$$

$$\frac{4}{16} = .250$$

$$\frac{5}{16} = .3125$$

$$\frac{6}{16} = .375$$

$$\frac{7}{16} = .4375$$

$$\frac{8}{16} = .500$$

$$\frac{9}{16} = .5625$$

$$\frac{10}{16} = .625$$

$$\frac{11}{16} = .6875$$

$$\frac{12}{16} = .750$$

$$\frac{13}{16} = .8125$$

$$\frac{14}{16} = .875$$

$$\frac{15}{16} = .9375$$

32nds

$$\frac{1}{32} = .03125$$

$$\frac{2}{32} = .0625$$

$$\frac{3}{32} = .09375$$

$$\frac{4}{32} = .125$$

$$\frac{5}{32} = .15625$$

$$\frac{6}{32} = .1875$$

$$\frac{7}{32} = .21875$$

$$\frac{8}{32} = .250$$

$$\frac{9}{32} = .28125$$

$$\frac{10}{32} = .3125$$

$$\frac{11}{32} = .34375$$

$$\frac{12}{32} = .375$$

$$\frac{13}{32} = .40625$$

$$\frac{14}{32} = .4375$$

$$\frac{15}{32} = .46875$$

$$\frac{16}{32} = .500$$

$$\frac{17}{32} = .53125$$

$$\frac{18}{32} = .5625$$

$$\frac{19}{32} = .59375$$

$$\frac{20}{32} = .625$$

$$\frac{21}{32} = .65625$$

$$\frac{22}{32} = .6875$$

$$\frac{23}{32} = .71875$$

$$\frac{24}{32} = .750$$

$$\frac{25}{32} = .78125$$

$$\frac{26}{32} = .8125$$

$$\frac{27}{32} = .84375$$

$$\frac{28}{32} = .875$$

$$\frac{29}{32} = .90625$$

$$\frac{30}{32} = .9375$$

$$\frac{31}{32} = .96875$$

$$\frac{32}{32} = 1.000$$

$$\frac{1}{32} = .03125$$

$$\frac{2}{32} = .0625$$

$$\frac{3}{32} = .09375$$

$$\frac{4}{32} = .125$$

$$\frac{5}{32} = .15625$$

$$\frac{6}{32} = .1875$$

$$\frac{7}{32} = .21875$$

$$\frac{8}{32} = .250$$

$$\frac{9}{32} = .28125$$

$$\frac{10}{32} = .3125$$

$$\frac{11}{32} = .34375$$

$$\frac{12}{32} = .375$$

$$\frac{13}{32} = .40625$$

$$\frac{14}{32} = .4375$$

$$\frac{15}{32} = .46875$$

$$\frac{16}{32} = .500$$

$$\frac{17}{32} = .53125$$

$$\frac{18}{32} = .5625$$

$$\frac{19}{32} = .59375$$

$$\frac{20}{32} = .625$$

$$\frac{21}{32} = .65625$$

$$\frac{22}{32} = .6875$$

$$\frac{23}{32} = .71875$$

$$\frac{24}{32} = .750$$

$$\frac{25}{32} = .78125$$

$$\frac{26}{32} = .8125$$

$$\frac{27}{32} = .84375$$

$$\frac{28}{32} = .875$$

$$\frac{29}{32} = .90625$$

$$\frac{30}{32} = .9375$$

$$\frac{31}{32} = .96875$$

$$\frac{32}{32} = 1.000$$

$$\frac{1}{64} = .015625$$

$$\frac{2}{64} = .03125$$

$$\frac{3}{64} = .046875$$

$$\frac{4}{64} = .0625$$

$$\frac{5}{64} = .078125$$

$$\frac{6}{64} = .09375$$

$$\frac{7}{64} = .109375$$

$$\frac{8}{64} = .125$$

$$\frac{9}{64} = .140625$$

$$\frac{10}{64} = .15625$$

$$\frac{11}{64} = .171875$$

$$\frac{12}{64} = .1875$$

$$\frac{13}{64} = .203125$$

$$\frac{14}{64} = .21875$$

$$\frac{15}{64} = .234375$$

$$\frac{16}{64} = .250$$

$$\frac{17}{64} = .265625$$

$$\frac{18}{64} = .28125$$

$$\frac{19}{64} = .296875$$

$$\frac{20}{64} = .3125$$

$$\frac{21}{64} = .328125$$

$$\frac{22}{64} = .34375$$

$$\frac{23}{64} = .359375$$

$$\frac{24}{64} = .375$$

$$\frac{25}{64} = .390625$$

$$\frac{26}{64} = .40625$$

$$\frac{27}{64} = .421875$$

$$\frac{28}{64} = .4375$$

$$\frac{29}{64} = .453125$$

$$\frac{30}{64} = .46875$$

$$\frac{31}{64} = .484375$$

$$\frac{32}{64} = .500$$

64ths

$$\frac{1}{64} = .015625$$

$$\frac{2}{64} = .03125$$

$$\frac{3}{64} = .046875$$

$$\frac{4}{64} = .0625$$

$$\frac{5}{64} = .078125$$

$$\frac{6}{64} = .09375$$

$$\frac{7}{64} = .109375$$

$$\frac{8}{64} = .125$$

$$\frac{9}{64} = .140625$$

$$\frac{10}{64} = .15625$$

$$\frac{11}{64} = .171875$$

$$\frac{12}{64} = .1875$$

$$\frac{13}{64} = .203125$$

$$\frac{14}{64} = .21875$$

$$\frac{15}{64} = .234375$$

$$\frac{16}{64} = .250$$

$$\frac{17}{64} = .265625$$

$$\frac{18}{64} = .28125$$

$$\frac{19}{64} = .296875$$

$$\frac{20}{64} = .3125$$

$$\frac{21}{64} = .328125$$

$$\frac{22}{64} = .34375$$

$$\frac{23}{64} = .359375$$

$$\frac{24}{64} = .375$$

$$\frac{25}{64} = .390625$$

$$\frac{26}{64} = .40625$$

$$\frac{27}{64} = .421875$$

$$\frac{28}{64} = .4375$$

$$\frac{29}{64} = .453125$$

$$\frac{30}{64} = .46875$$

$$\frac{31}{64} = .484375$$

$$\frac{32}{64} = .500$$

$$\frac{1}{64} = .015625$$

$$\frac{2}{64} = .03125$$

$$\frac{3}{64} = .046875$$

$$\frac{4}{64} = .0625$$

$$\frac{5}{64} = .078125$$

$$\frac{6}{64} = .09375$$

$$\frac{7}{64} = .109375$$

$$\frac{8}{64} = .125$$

$$\frac{9}{64} = .140625$$

$$\frac{10}{64} = .15625$$

$$\frac{11}{64} = .171875$$

$$\frac{12}{64} = .1875$$

$$\frac{13}{64} = .203125$$

$$\frac{14}{64} = .21875$$

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$$\frac{16}{64} = .250$$

$$\frac{17}{64} = .265625$$

$$\frac{18}{64} = .28125$$

$$\frac{19}{64} = .296875$$

$$\frac{20}{64} = .3125$$

$$\frac{21}{64} = .328125$$

$$\frac{22}{64} = .34375$$

$$\frac{23}{64} = .359375$$

$$\frac{24}{64} = .375$$

$$\frac{25}{64} = .390625$$

$$\frac{26}{64} = .40625$$

$$\frac{27}{64} = .421875$$

$$\frac{28}{64} = .4375$$

$$\frac{29}{64} = .453125$$

$$\frac{30}{64} = .46875$$

$$\frac{31}{64} = .484375$$

$$\frac{32}{64} = .500$$

Decimal Equivalents of Millimeters

Mm.	Inches	Mm.	Inches	Mm.	Inches	Mm.	Inches
.1	.00394	4.4	.17322	8.7	.34251	13.	.51181
.2	.00787	4.5	.17716	8.8	.34645	13.1	.51574
.3	.01181	4.6	.18110	8.9	.35039	13.2	.51968
.4	.01575	4.7	.18503	9.	.35433	13.3	.52362
.5	.01968	4.8	.18897	9.1	.35826	13.4	.52755
.6	.02362	4.9	.19291	9.2	.36220	13.5	.53149
.7	.02756	5.	.19685	9.3	.36614	13.6	.53543
.8	.03149	5.1	.20078	9.4	.37007	13.7	.53936
.9	.03543	5.2	.20472	9.5	.37401	13.8	.54330
1.	.03937	5.3	.20866	9.6	.37795	13.9	.54724
1.1	.04330	5.4	.21259	9.7	.38188	14.	.55118
1.2	.04724	5.5	.21653	9.8	.38582	14.1	.55511
1.3	.05118	5.6	.22047	9.9	.38976	14.2	.55905
1.4	.05512	5.7	.22440	10.	.39370	14.3	.56299
1.5	.05905	5.8	.22834	10.1	.39763	14.4	.56692
1.6	.06299	5.9	.23228	10.2	.40157	14.5	.57086
1.7	.06692	6.	.23622	10.3	.40551	14.6	.57480
1.8	.07086	6.1	.24015	10.4	.40944	14.7	.57873
1.9	.07480	6.2	.24409	10.5	.41338	14.8	.58267
2.	.07874	6.3	.24803	10.6	.41732	14.9	.58661
2.1	.08267	6.4	.25196	10.7	.42125	15.	.59055
2.2	.08661	6.5	.25590	10.8	.42519	15.5	.61023
2.3	.09055	6.6	.25984	10.9	.42913	16.	.62992
2.4	.09448	6.7	.26377	11.	.43307	16.5	.64960
2.5	.09842	6.8	.26771	11.1	.43700	17.	.66929
2.6	.10236	6.9	.27165	11.2	.44094	17.5	.68897
2.7	.10629	7.	.27559	11.3	.44488	18.	.70866
2.8	.11023	7.1	.27952	11.4	.44881	18.5	.72834
2.9	.11417	7.2	.28346	11.5	.45275	19.	.74803
3.	.11811	7.3	.28740	11.6	.45669	19.5	.76771
3.1	.12204	7.4	.29133	11.7	.46062	20.	.78740
3.2	.12598	7.5	.29527	11.8	.46456	20.5	.80708
3.3	.12992	7.6	.29921	11.9	.46850	21.	.82677
3.4	.13385	7.7	.30314	12.	.47244	21.5	.84645
3.5	.13779	7.8	.30708	12.1	.47637	22.	.86614
3.6	.14173	7.9	.31102	12.2	.48031	22.5	.88582
3.7	.14566	8.	.31496	12.3	.48425	23.	.90551
3.8	.14960	8.1	.31889	12.4	.48818	23.5	.92519
3.9	.15354	8.2	.32283	12.5	.49212	24.	.94488
4.	.15748	8.3	.32677	12.6	.49606	24.5	.96456
4.1	.16141	8.4	.33070	12.7	.49999	25.	.98425
4.2	.16535	8.5	.33464	12.8	.50393	25.5	1.00393
4.3	.16929	8.6	.33858	12.9	.50787	26.	1.02362

Decimal Equivalents of Number Size Drills

No.	Size of Drill in Inches	No.	Size of Drill in Inches	No.	Size of Drill in Inches	No.	Size of Drill in Inches
1	0.2280	21	0.1590	41	0.0960	61	0.0390
2	0.2210	22	0.1570	42	0.0935	62	0.0380
3	0.2130	23	0.1540	43	0.0890	63	0.0370
4	0.2090	24	0.1520	44	0.0860	64	0.0360
5	0.2055	25	0.1495	45	0.0820	65	0.0350
6	0.2040	26	0.1470	46	0.0810	66	0.0330
7	0.2010	27	0.1440	47	0.0785	67	0.0320
8	0.1990	28	0.1405	48	0.0760	68	0.0310
9	0.1960	29	0.1360	49	0.0730	69	0.0292
10	0.1935	30	0.1285	50	0.0700	70	0.0280
11	0.1910	31	0.1200	51	0.0670	71	0.0260
12	0.1890	32	0.1160	52	0.0635	72	0.0250
13	0.1850	33	0.1130	53	0.0595	73	0.0240
14	0.1820	34	0.1110	54	0.0550	74	0.0225
15	0.1800	35	0.1100	55	0.0520	75	0.0210
16	0.1770	36	0.1065	56	0.0465	76	0.0200
17	0.1730	37	0.1040	57	0.0430	77	0.0180
18	0.1695	38	0.1015	58	0.0420	78	0.0160
19	0.1660	39	0.0995	59	0.0410	79	0.0145
20	0.1610	40	0.0980	60	0.0400	80	0.0135

Decimal Equivalents of Letter Size Drills

Letter	Size of Drill in Inches	Letter	Size of Drill in Inches	Letter	Size of Drill in Inches	Letter	Size of Drill in Inches
Z	0.413	S	0.348	L	0.290	E	0.250
Y	0.404	R	0.339	K	0.281	D	0.246
X	0.397	Q	0.332	J	0.277	C	0.242
W	0.386	P	0.323	I	0.272	B	0.238
V	0.377	O	0.316	H	0.266	A	0.234
U	0.368	N	0.302	G	0.261		
T	0.358	M	0.295	F	0.257		

Useful Rules

TO FIND CIRCUMFERENCE—

Multiply diameter by 3.1416

Or divide diameter by 0.3183

TO FIND DIAMETER—

Multiply circumference by 0.3183

Or divide circumference by 3.1416

TO FIND RADIUS—

Multiply circumference by 0.15915

Or divide circumference by 6.28318

TO FIND SIDE OF AN INSCRIBED SQUARE—

Multiply diameter by 0.7071

Or multiply circumference by 0.2251

Or divide circumference by 4.4428

TO FIND SIDE OF AN EQUAL SQUARE—

Multiply diameter by 0.8862

Or divide diameter by 1.1284

Or multiply circumference by 0.2821

Or divide circumference by 3.545

SQUARE—

A side multiplied by 1.4142 equals diameter of its circumscribing circle.

A side multiplied by 4.443 equals circumference of its circumscribing circle.

A side multiplied by 1.128 equals diameter of an equal circle.

A side multiplied by 3.547 equals circumference of an equal circle.

TO FIND THE AREA OF A CIRCLE—

Multiply circumference by one-quarter of the diameter.

Or multiply the square of diameter by 0.7854

Or multiply the square of circumference by 0.07958

Or multiply the square of $\frac{1}{2}$ diameter by 3.1416

TO FIND THE SURFACE OF A SPHERE OR GLOBE—

Multiply the diameter by the circumference.

Or multiply the square of diameter by 3.1416

Or multiply four times the square of radius by 3.1416

TO FIND THE CUBIC INCHES (VOLUME) IN A SPHERE OR GLOBE—

Multiply the cube of the diameter by .5236.

TO FIND THE WEIGHT OF BRASS AND COPPER SHEETS, RODS AND BARS—

Ascertain the number of cubic inches in piece and multiply same by weight per cubic inch.

Aluminum	.0924	Copper	.3184
Brass	.2960	Steel	.2816

Or multiply the length by the breadth (in feet) and product by weight in pounds per square foot.

Surveyors or Land Measure

- 1 Link = 7.92 inches
- 1 Rod (or Pole) = 25 links = 16 $\frac{1}{2}$ feet.
- 1 Chain = 100 links = 4 rods = 66 feet.
- 1 Furlong = 40 rods = 10 chains = $\frac{1}{4}$ mile.
- 1 Mile = 320 rods = 5,280 feet.
- 1 Acre = 160 square rods = 43,560 square feet.
- 1 Square Mile = 640 acres.

The Metric System

MEASURES OF LENGTH

- 10 millimeters (mm.) = 1 centimeter cm.
- 10 centimeters = 1 decimeter dm.
- 10 decimeters = 1 meter m.
- 10 meters = 1 dekameter Dm.
- 10 dekameters = 1 hektometer Hm.
- 10 hektometers = 1 kilometer Km.
- 1 meter = 39.37 inches.
- 1 meter = 3.28083 feet.
- 1 meter = 1.0936 yards.
- 1 centimeter = .3937 inch.
- 1 millimeter = .03937 inch, or approximately $\frac{1}{25}$ inch.
- 1 kilometer = 0.62137 mile.
- 1 foot = .3048 meter.
- 1 inch = 2.54 centimeters.
- 1 inch = 25.4 millimeters.

MEASURES OF SURFACE

- 1 square meter = 10.764 square feet.
- 1 square centimeter = 1.96 square yards.
- 1 square millimeter = .00155 sq. inch.
- 1 square yard = .836 square meter.
- 1 square foot = .0929 square meter.
- 1 square inch = 6.452 sq. centimeters.
- 1 square inch = 645.2 sq. millimeters.

MEASURES OF VOLUME AND CAPACITY

- 1 cubic meter = 35.314 cubic feet.
- 1 cubic meter = 1.305 cubic yards.
- 1 cubic meter = 264.2 gallons (231 cubic inches).
- 1 cubic decimeter = 61.023 cubic in.
- 1 cubic centimeter = .0353 cubic feet.
- 1 cubic centimeter = .061 cubic inch.
- 1 cubic decimeter = 1 cubic decimeter.
- 1 liter = 61.023 cubic inches.
- 1 liter = .0353 cubic foot.
- 1 liter = 1.0567 quarts (U. S.).
- 1 liter = 20.42 gallon (U. S.).
- 1 liter = 2.202 lbs. of water at 62° F.
- 1 cubic yard = 7645 cubic meter.
- 1 cubic foot = .02832 cubic meter.
- 1 cubic foot = 28.317 cubic decimeters.
- 1 cubic foot = 28.317 liters.
- 1 cubic in. = 16.393 cubic centimeters.
- 1 gallon (British) = 4.543 liters.
- 1 gallon (U. S.) = 3.785 liters.

MEASURES OF WEIGHT

- 1 gram = 15.432 grains.
- 1 kilogram = 2.2046 pounds.
- 1 metric ton = .9842 ton of 2240 lbs.
- 1 metric ton = 19.68 cwts.
- 1 metric ton = 2204.6 lbs.
- 1 grain = .0648 gram.
- 1 ounce avoirdupois = 28.35 grams.
- 1 pound = 4536 kilogram.
- 1 ton of 2240 lbs. = 1.016 metric ton.
- 1 ton of 2240 lbs. = 1016 kilograms.

Miscellaneous

- 1 kilogram per meter = .6720 pounds per foot.
- 1 gram per square millimeter = 1.422 pounds per square inch.
- 1 kilogram per square meter = 0.2084 pounds per square foot.
- 1 kilogram per cubic meter = .0624 pounds per cubic foot.
- 1 degree centigrade = 1.8 degrees Fahrenheit.
- 1 pound per foot = 1.488 kilograms per meter.
- 1 pound per square foot = 4.882 kilograms per square meter.
- 1 pound (see cubic foot) = 16.02 kilograms per cubic meter.
- 1 degree Fahrenheit = 5556 degrees centigrade.
- 1 Calorie (French Thermal Unit) = 3.968 B. T. U. (British Thermal Unit).
- 1 Horse Power = 33,000 foot pounds per minute.
- 1 Horse Power = 746 Watts.
- 1 Watt (Unit of Electrical Power) = .00134 Horse Power.
- 1 Watt (Unit of Electrical Power) = 44.22 foot pounds per minute.
- 1 Kilowatt = 1000 Watts.
- 1 Kilowatt = 1.34 Horse Power.
- 1 Kilowatt = 44,220 foot pounds per minute.

Sizes of Tap Drills For Machine Screw Taps

A. S. M. E. Standard

Size of Tap, No.	Size of Drill, No.	Size of Tap, No.	Size of Drill, No.	Size of Tap, No.	Size of Drill, No.	Size of Tap, No.	Size of Drill, No.
0-80	56	5-44	37	10-24	25	20-16	G
1-56	54	6-32	36	10-28	23	20-18	$17\frac{1}{4}$
1-64	53	6-36	34	10-30	22	20-20	I
1-72	53	6-40	33	10-32	21	22-16	$1\frac{1}{2}$
2-56	50	7-30	31	12-24	16	22-18	L
2-64	50	7-32	31	12-28	14	24-16	$1\frac{1}{8}$
3-48	47	7-36	$1\frac{1}{2}$	12-32	13	24-18	O
3-56	45	8-30	30	14-20	10	26-14	$2\frac{1}{4}$
4-32	45	8-32	29	14-24	7	26-16	R
4-36	44	8-36	29	16-18	3	28-14	T
4-40	43	8-40	28	16-20	$1\frac{1}{32}$	28-16	$2\frac{3}{4}$
4-48	42	9-24	29	16-22	2	30-14	V
5-36	40	9-30	27	18-18	B	30-16	$2\frac{5}{8}$
5-40	38	9-32	26	18-20	D		

United States Standard

Size of Tap, No.	Size of Drill, No.	Size of Tap, No.	Size of Drill, No.	Size of Tap, No.	Size of Drill, No.	Size of Tap, No.	Size of Drill, No.
$1\frac{1}{16}$ -64	56	$1\frac{1}{16}$ -14	U	$1\frac{1}{8}$ -10	$2\frac{1}{32}$	$1\frac{1}{8}$ -6	$1\frac{1}{32}$
$1\frac{1}{8}$ -40	38	$1\frac{1}{2}$ -13	$2\frac{1}{64}$	$7\frac{1}{8}$ -9	$4\frac{1}{64}$	$1\frac{1}{2}$ -6	$1\frac{1}{32}$
$3\frac{1}{16}$ -32	22	$3\frac{1}{16}$ -12	$3\frac{1}{64}$	$1\frac{1}{2}$ -9	$5\frac{1}{64}$	$1\frac{1}{2}$ -5 $\frac{1}{2}$	$1\frac{1}{32}$
$1\frac{1}{4}$ -20	7	$5\frac{1}{8}$ -11	$1\frac{1}{32}$	1-8	$7\frac{1}{64}$	$1\frac{3}{4}$ -5	$1\frac{1}{16}$
$5\frac{1}{16}$ -18	F	$1\frac{1}{16}$ -11	$1\frac{1}{32}$	$1\frac{1}{8}$ -7	$6\frac{1}{64}$	$1\frac{7}{8}$ -5	$1\frac{1}{16}$
$3\frac{1}{8}$ -16	$3\frac{1}{16}$	$3\frac{1}{4}$ -10	$2\frac{1}{32}$	$1\frac{1}{4}$ -7	$1\frac{1}{64}$	2-4 $\frac{1}{2}$	$1\frac{1}{32}$

S. A. E. Standard

Size of Tap, No.	Size of Drill, No.	Size of Tap, No.	Size of Drill, No.	Size of Tap, No.	Size of Drill, No.	Size of Tap, No.	Size of Drill, No.
$1\frac{1}{4}$ -28	3	$1\frac{1}{2}$ -20	$2\frac{1}{64}$	$1\frac{1}{2}$ -16	$1\frac{1}{16}$	$1\frac{1}{4}$ -12	$1\frac{1}{4}$
$3\frac{1}{16}$ -24	1	$3\frac{1}{16}$ -18	$2\frac{1}{64}$	$1\frac{1}{2}$ -14	$1\frac{1}{16}$	$1\frac{1}{8}$ -12	$1\frac{1}{8}$
$3\frac{1}{8}$ -24	Q	$5\frac{1}{8}$ -18	$4\frac{1}{64}$	1-14	$1\frac{1}{16}$	$1\frac{1}{8}$ -12	$1\frac{1}{8}$
$1\frac{1}{16}$ -20	$2\frac{1}{64}$	$1\frac{1}{16}$ -16	$3\frac{1}{32}$	$1\frac{1}{8}$ -12	$1\frac{1}{64}$		

Briggs Pipe Standard

Size of Tap, No.	Size of Drill, No.	Size of Tap, No.	Size of Drill, No.	Size of Tap, No.	Size of Drill, No.	Size of Tap, No.	Size of Drill, No.
$1\frac{1}{8}$ -27	R	$1\frac{1}{2}$ -14	$2\frac{1}{32}$	$1\frac{1}{4}$ -11 $\frac{1}{2}$	$1\frac{1}{8}$	$2\frac{1}{2}$ -8	$2\frac{1}{4}$
$1\frac{1}{4}$ -18	$7\frac{1}{16}$	$3\frac{1}{4}$ -14	$5\frac{1}{64}$	$1\frac{1}{2}$ -11 $\frac{1}{2}$	$1\frac{1}{8}$	3-8	$3\frac{1}{4}$
$3\frac{1}{8}$ -18	$5\frac{1}{16}$	1-11 $\frac{1}{2}$	$1\frac{1}{32}$	2-11 $\frac{1}{2}$	$2\frac{1}{32}$		

Different Standards for Wire Gages in Use in the United States

Dimensions of Sizes in Decimal Parts of an Inch

Number of Wire Gage	American or B. & S.	Birmingham or Stubbs' Iron Wire	Washburn & Moen, Worcester, Mass.	W. & M. Steel Music Wire	New American S. & W. Co.'s Music Wire Gage	Imperial Wire Gage	Stubbs' Steel Wire	U. S. Standard Gage for Sheet and Plate Iron and Steel	Number of Wire Gage
00000000				0083					00000000
0000000				0087					00000000
0000000				0095	004	464		46875	0000000
00000				010	005	432		4375	00000
0000	460	454	3938	011	006	400		40625	0000
000	40964	425	3625	012	007	372		375	000
00	3648	380	3310	0133	008	348		34375	00
0	32486	340	3065	0144	009	324		3125	0
1	2893	300	2830	0156	010	300	227	28125	1
2	25763	284	2625	0166	011	276	219	265625	2
3	22942	259	2437	0178	012	252	212	250	3
4	20431	238	2253	0188	013	232	207	234375	4
5	18194	220	2070	0202	014	212	204	21875	5
6	16202	203	1920	0215	016	192	201	203125	6
7	14428	180	1770	023	018	176	199	1875	7
8	12849	165	1620	0243	020	160	197	171875	8
9	11443	148	1483	0256	022	144	194	15625	9
10	10189	134	1350	027	024	128	191	140625	10
11	090742	120	1205	0284	026	116	188	125	11
12	080808	109	1055	0296	029	104	185	109375	12
13	071961	095	0915	0314	031	092	182	09375	13
14	064084	083	0800	0326	033	080	180	078125	14
15	057068	072	0720	0345	035	072	178	0703125	15
16	05082	065	0625	036	037	064	175	0625	16
17	045257	058	0540	0377	039	056	172	05625	17
18	040303	049	0475	0395	041	048	168	050	18
19	03589	042	0410	0414	043	040	164	04375	19
20	031961	035	0348	0434	045	036	161	0375	20
21	028462	032	03175	046	047	032	157	034375	21
22	025347	028	0286	0483	049	028	155	03125	22
23	022571	025	0258	051	051	024	153	028125	23
24	0201	022	0230	055	055	022	151	025	24
25	0179	020	0204	0586	059	020	148	021875	25
26	01594	018	0181	0626	063	018	146	01875	26
27	014195	016	0173	0658	067	0164	143	0171875	27
28	012641	014	0162	072	071	0149	139	015625	28
29	011257	013	0150	076	075	0136	134	0140625	29
30	010025	012	0140	080	080	0124	127	0125	30
31	008928	010	0132		085	0116	120	0109375	31
32	00795	009	0128		090	0108	115	01015625	32
33	00708	008	0118		095	0100	112	009375	33
34	006304	007	0104			0092	110	00859375	34
35	005614	005	0095			0084	108	0078125	35
36	005	004	0090			0076	106	00703125	36
37	004453					0068	103	006640625	37
38	003965					0060	101	00625	38
39	003531					0052	099		39
40	003144					0048	097		40

Table of Pitch Diameters for U. S. Standard Form of Screw Threads

Caliper Reading or Pitch Diameter for U. S. Threads = $D - \frac{.6495}{N}$

Diam., Inches	Threads Per Inch	Caliper Reading or Pitch Diam.	Single Depth of Thread	Diam., Inches	Threads Per Inch	Caliper Reading or Pitch Diam.	Single Depth of Thread
D	N	$D - \frac{.6495}{N}$	$\frac{.6495}{N}$	D	N	$D - \frac{.6495}{N}$	$\frac{.6495}{N}$
	64		.0101		20	.2175	.0325
	62		.0105		18	.2764	.0361
	60		.0108		16	.3344	.0406
	58		.0112		14	.3911	.0464
	56		.0116		13	.4501	.0499
	54		.0120		12	.5084	.0541
	52		.0125		11	.5660	.0590
	50		.0130		10	.6231	.0649
	48		.0135		9	.6802	.0721
	46		.0141		8	.7373	.0812
	44		.0148	1	7	.7944	.0928
	42		.0155	1	7	.8515	.0928
	40		.0162	1	6	.9086	.1082
	38		.0171	1	6	.9657	.1082
	36		.0180	1	5 1/2	1.0228	.1180
	34		.0191	1	5	1.0799	.1299
	32		.0203	1	5	1.1370	.1299
	30		.0217	2	4 1/2	1.1941	.1443
	28		.0232	2	4	1.2512	.1624
	26		.0250	3	3 1/2	1.3083	.1855
	24		.0271	3	3 1/2	1.3654	.1998
	22		.0295	4	3	1.4225	.2135

NOTE.—As there is no standard of diameter for the finer pitches this column is left blank.

Table of Pitch Diameters for S. A. E. Standard Form of Screw Threads

Caliper Reading or Pitch Diameter for S. A. E. Threads = $D - \frac{.6495}{N}$

Diam., Inches	Threads Per Inch	Caliper Reading or Pitch Diam.	Single Depth of Thread	Diam., Inches	Threads Per Inch	Caliper Reading or Pitch Diam.	Single Depth of Thread
D	N	$D - \frac{.6495}{N}$	$\frac{.6495}{N}$	D	N	$D - \frac{.6495}{N}$	$\frac{.6495}{N}$
1/4	28	.2268	.0232	3/4	16	.7094	.0406
1/4	24	.2854	.0271	3/4	14	.8286	.0464
1/2	24	.3479	.0271	1	14	.9536	.0464
1/2	20	.4050	.0324	1	12	1.0709	.0541
1/2	20	.4675	.0324	1	12	1.1959	.0541
1/2	18	.5265	.0360	1	12	1.3209	.0541
1/2	18	.5890	.0360	1	12	1.4459	.0541
1/2	16	.6469	.0406				

Table of Pitch Diameters for A. S. M. E. Standard Form of Screw Threads

Caliper Reading or Pitch Diameter for A. S. M. E. Threads = $D - \frac{.6495}{N}$

No.	Basic and Max. Outside Diam.	Threads per Inch	Caliper Reading or Max. Pitch Diam.	Single Depth of Thread	No.	Basic and Max. Outside Diam.	Threads per Inch	Caliper Reading or Max. Pitch Diam.	Single Depth of Thread
	D	N	$D - \frac{.6495}{N}$	$\frac{.6495}{N}$		D	N	$D - \frac{.6495}{N}$	$\frac{.6495}{N}$
0	.060	80	.0519	.0081	12	.216	28	.1928	.0232
1	.073	72	.0640	.0090	14	.242	24	.2149	.0271
2	.086	64	.0759	.0101	16	.268	22	.2385	.0295
3	.099	56	.0874	.0116	18	.294	20	.2615	.0325
4	.112	48	.0985	.0135	20	.320	20	.2875	.0325
5	.125	44	.1102	.0148	22	.346	18	.3099	.0361
6	.138	40	.1218	.0162	24	.372	16	.3314	.0406
7	.151	36	.1330	.0180	26	.398	16	.3574	.0406
8	.164	36	.1460	.0180	28	.424	14	.3776	.0464
9	.177	32	.1567	.0203	30	.450	14	.4036	.0464
10	.190	30	.1684	.0217					

Table of Pitch Diameters For "Sharp V" Standard Form of Screw Threads

Caliper Reading or Pitch Diameter for "Sharp V" Threads = $D - \frac{.866}{N}$

Diam., Inches	Threads per Inch	Caliper Reading or Pitch Diam.	Single Depth of Thread	Diam., Inches	Threads per Inch	Caliper Reading or Pitch Diam.	Single Depth of Thread
D	N	$D - \frac{.866}{N}$	$\frac{.866}{N}$	D	N	$D - \frac{.866}{N}$	$\frac{.866}{N}$
	64		.0135	$\frac{1}{8}$	24	.2139	.0361
	62		.0140	$\frac{1}{8}$	20	.2067	.0433
	60		.0144	$\frac{1}{8}$	20	.2692	.0433
	58		.0149	$\frac{1}{8}$	18	.2644	.0481
	56		.0155	$\frac{1}{8}$	18	.3269	.0481
	54		.0161	$\frac{1}{8}$	16	.3209	.0541
	52		.0167	$\frac{1}{8}$	16	.3834	.0541
	50		.0173	$\frac{1}{8}$	14	.3756	.0619
	48		.0180	$\frac{1}{8}$	14	.4381	.0619
	46		.0188	$\frac{1}{8}$	13	.4334	.0666
	44		.0197	$\frac{1}{8}$	12	.4278	.0722
	42		.0206	$\frac{1}{8}$	14	.5006	.0619
	40		.0217	$\frac{1}{8}$	12	.4903	.0722
	38		.0228	$\frac{1}{8}$	11	.5463	.0787
	36		.0241	$\frac{1}{8}$	10	.5384	.0866
	34		.0255	$\frac{1}{8}$	10	.6009	.0866
	32		.0271	$\frac{1}{8}$	10	.6634	.0866
	30		.0280	$\frac{1}{8}$	9	.7788	.0962
	28		.0309	1	8	.8918	.1082
	26		.0333	$1 \frac{1}{8}$	8	1.0168	.1082
				$1 \frac{1}{4}$	7	1.1263	.1237
				$1 \frac{1}{2}$	6	1.3557	.1443

NOTE.—As there is no standard of diameter for the finer pitches this column is left blank.

*These figures give the outside diameter for screws with threads cut theoretically sharp. As it is not practical to make these threads sharp, the outside diameter will measure less than the figures given, the pitch diameter remaining the same.

Table of Pitch Diameters For Whitworth Standard of Screw Threads

Caliper Reading or Pitch Diameter for Whitworth Threads = $D - \frac{.640}{N}$

Diam., Inches	Threads per Inch	Caliper Reading or Pitch Diam.	Single Depth of Thread	Diam., Inches	Threads per Inch	Caliper Reading or Pitch Diam.	Single Depth of Thread
D	N	$D - \frac{.640}{N}$	$\frac{.640}{N}$	D	N	$D - \frac{.640}{N}$	$\frac{.640}{N}$
	48		.0133	$\frac{1}{8}$	12	.4467	.0533
	46		.0139	$\frac{1}{8}$	12	.5092	.0533
	44		.0146	$\frac{1}{8}$	11	.5668	.0582
	42		.0152	$\frac{1}{8}$	11	.6293	.0582
	40		.0160	$\frac{1}{8}$	10	.6860	.0640
	38		.0168	$\frac{1}{8}$	10	.7485	.0640
	36		.0178	$\frac{1}{8}$	9	.8039	.0711
	34		.0188	$\frac{1}{8}$	9	.8664	.0711
	32		.0200	1	8	.9200	.0800
	30		.0213	$1 \frac{1}{8}$	7	1.0336	.0914
	28		.0229	$1 \frac{1}{4}$	7	1.1586	.0914
	26		.0246	$1 \frac{1}{4}$	6	1.2684	.1066
	24		.0267	$1 \frac{1}{2}$	6	1.3934	.1066
	22		.0291	$1 \frac{1}{2}$	5	1.4970	.1280
	20	.2180	.0320	$1 \frac{1}{2}$	5	1.6220	.1280
	18	.2769	.0355	$1 \frac{1}{8}$	4 $\frac{1}{2}$	1.7328	.1422
	16	.3350	.0400	2	4 $\frac{1}{2}$	1.8578	.1422
	14	.3918	.0457	$2 \frac{1}{4}$	4 $\frac{1}{2}$	1.9828	.1422

**Table of Pitch Diameters
For Metric Standard of Screw Threads**

Size mm.	Pitch		Size mm.	Pitch	
	Intl. Std.	French Std.		Intl. Std.	French Std.
2	.45	.50	20	2.50	2.50
3	.55	.50	22	2.50	2.50
4	.70	.75	24	3.00	3.00
5	.85	.75	26		3.00
6	1.00	1.00	27	3.00	
7	1.00	1.00	28		3.00
8	1.25	1.00	30		3.50
9	1.25	1.00	32	3.50	3.50
10	1.50	1.50	33		3.50
11	1.50		34		3.50
12	1.75	1.50	36	4.00	4.00
14	2.00	2.00	38		4.00
16	2.00	2.00	39	4.00	
18	2.50	2.50	40		4.00

Double Depth of Threads

Threads per Inch	Double Depth U. S. Standard Thread	Double Depth Sharp V Thread	Double Depth Whitworth Standard Thread	Threads per Inch	Double Depth U. S. Standard Thread	Double Depth Sharp V Thread	Double Depth Whitworth Standard Thread
2 1/4	0.5774	0.7698	0.5692	30	0.0433	0.0577	0.0427
2 3/8	0.5470	0.7293	0.5392	32	0.0406	0.0541	0.0400
2 1/2	0.5196	0.6928	0.5123	34	0.0382	0.0509	0.0377
2 5/8	0.4949	0.6598	0.4879	36	0.0361	0.0481	0.0356
2 3/4	0.4724	0.6298	0.4657	38	0.0342	0.0456	0.0337
2 7/8	0.4518	0.6025	0.4454	40	0.0325	0.0433	0.0320
3	0.4330	0.5774	0.4269	42	0.0309	0.0412	0.0305
3 1/4	0.3997	0.5329	0.3940	44	0.0295	0.0394	0.0291
3 1/2	0.3712	0.4949	0.3659	46	0.0282	0.0377	0.0278
4	0.3248	0.4330	0.3202	48	0.0271	0.0361	0.0267
4 1/2	0.2887	0.3849	0.2846	50	0.0260	0.0346	0.0256
5	0.2598	0.3464	0.2561	52	0.0250	0.0333	0.0246
5 1/2	0.2362	0.3149	0.2328	54	0.0241	0.0321	0.0237
6	0.2165	0.2887	0.2134	56	0.0232	0.0309	0.0229
7	0.1856	0.2474	0.1830	58	0.0224	0.0299	0.0221
8	0.1624	0.2165	0.1601	60	0.0217	0.0289	0.0213
9	0.1443	0.1925	0.1423	62	0.0209	0.0279	0.0206
10	0.1299	0.1732	0.1281	64	0.0203	0.0271	0.0200
11	0.1181	0.1575	0.1164	66	0.0197	0.0263	0.0194
12	0.1083	0.1443	0.1067	68	0.0191	0.0255	0.0188
13	0.0999	0.1332	0.0985	70	0.0185	0.0248	0.0183
14	0.0928	0.1237	0.0915	72	0.0180	0.0241	0.0178
15	0.0866	0.1155	0.0854	74	0.0175	0.0234	0.0173
16	0.0812	0.1083	0.0800	76	0.0171	0.0228	0.0167
18	0.0722	0.0962	0.0711	78	0.0167	0.0222	0.0164
20	0.0650	0.0866	0.0640	80	0.0162	0.0217	0.0160
22	0.0590	0.0787	0.0582	82	0.0158	0.0211	0.0156
24	0.0541	0.0722	0.0534	84	0.0155	0.0206	0.0152
26	0.0500	0.0666	0.0493	86	0.0151	0.0201	0.0148
27	0.0481	0.0642	0.0474	88	0.0148	0.0196	0.0145
28	0.0464	0.0619	0.0457	90	0.0144	0.0192	0.0142

Double Depth for U. S. Standard Thread = $\frac{1.299}{N}$

Double Depth for Sharp V Thread = $\frac{1.732}{N}$

Double Depth for Whitworth Standard Thread = $\frac{1.281}{N}$

29° Screw Thread

Acme Standard

The various parts of the 29° screw thread, Acme Standard, are obtained as follows

$$\text{Width of point of tool for screw or tap thread} = \frac{.3707}{\text{Threads per Inch}} - .0052$$

$$\text{Width of screw or nut thread} = \frac{.3707}{\text{Threads per Inch}}$$

$$\text{Diameter of tap} = \text{Diameter of screw} + .020$$

$$\text{Diameter of tap or screw at root} = \text{Diameter of screw} - \left(\frac{1}{\text{Threads per Inch}} + .020 \right)$$

$$\text{Depth of thread} = \frac{1}{2 \times \text{Threads per Inch}} + .010$$

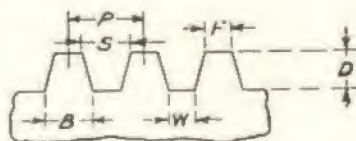


Table of Thread Parts

	D	F	W	S	B
Threads per Inch	Depth of Thread	Width of Flat at Top of Tooth	Width of Flat at Bottom of Thread	Width of Space Between Top of Teeth	Width of Tooth at Root
1	.5100	.3707	.3655	.6293	.6345
1 1/4	.3851	.2781	.2729	.4721	.4773
1 1/2	.3433	.2471	.2419	.4196	.4248
1 3/4	.2957	.2118	.2066	.3596	.3648
2	.2600	.1854	.1802	.3146	.3198
2 1/2	.2100	.1483	.1431	.2517	.2569
3	.1767	.1236	.1184	.2097	.2149
4	.1350	.0927	.0875	.1573	.1625
5	.1100	.0741	.0689	.1259	.1311
6	.0933	.0618	.0566	.1049	.1101
7	.0814	.0530	.0478	.0898	.0950
8	.0725	.0463	.0411	.0787	.0839
9	.0656	.0412	.0360	.0699	.0751
10	.0600	.0371	.0319	.0629	.0681
12	.0517	.0309	.0257	.0524	.0576

United States Standard Gage

For Sheet and Plate Iron and Steel

Number of Gage	Approximate thickness in fractions of an inch	Approximate thickness in decimal part of an inch	Weight per square foot in ounces avoirdupois	Weight per square foot in pounds avoirdupois
0000000	$\frac{1}{16}$	.5	320	20.00
000000	$\frac{15}{32}$	.46875	300	18.75
00000	$\frac{7}{8}$	.4375	280	17.50
0000	$\frac{13}{32}$	.40625	260	16.25
000	$\frac{3}{8}$	.375	240	15.00
00	$\frac{11}{32}$	.34375	220	13.75
0	$\frac{5}{8}$	.3125	200	12.50
1	$\frac{9}{32}$	.28125	180	11.25
2	$\frac{17}{64}$	.265625	170	10.625
3	$\frac{1}{4}$	.25	160	10.00
4	$\frac{15}{64}$	.234375	150	9.375
5	$\frac{7}{32}$	.21875	140	8.75
6	$\frac{13}{64}$	.203125	130	8.125
7	$\frac{3}{8}$	.1875	120	7.5
8	$\frac{11}{64}$	.171875	110	6.875
9	$\frac{5}{32}$	.15625	100	6.25
10	$\frac{3}{16}$	.140625	90	5.625
11	$\frac{1}{8}$	.125	80	5.00
12	$\frac{7}{64}$	.109375	70	4.375
13	$\frac{3}{32}$	.09375	60	3.75
14	$\frac{6}{64}$	.078125	50	3.125
15	$\frac{9}{128}$	.0703125	45	2.8125
16	$\frac{1}{8}$	.0625	40	2.5
17	$\frac{3}{160}$	.05625	36	2.25
18	$\frac{1}{80}$	.05	32	2.
19	$\frac{7}{160}$	.04375	28	1.75
20	$\frac{3}{80}$	.0375	24	1.50
21	$\frac{11}{320}$	.034375	22	1.375
22	$\frac{1}{32}$	.03125	20	1.25
23	$\frac{9}{320}$	.028125	18	1.125
24	$\frac{1}{40}$	.025	16	1.
25	$\frac{7}{320}$	.021875	14	.875
26	$\frac{3}{160}$	.01875	12	.75
27	$\frac{1}{160}$	.0171875	11	.6875
28	$\frac{1}{64}$	.015625	10	.625
29	$\frac{9}{640}$	.0140625	9	.5625
30	$\frac{1}{80}$	.0125	8	.5
31	$\frac{7}{640}$	.0109375	7	.4375
32	$\frac{1}{128}$	.01015625	$6\frac{1}{2}$	.40625
33	$\frac{3}{320}$	.009375	6	.375
34	$\frac{11}{1280}$	.00859375	$5\frac{1}{2}$	.34375
35	$\frac{6}{640}$	.0078125	5	.3125
36	$\frac{9}{1280}$	.00703125	$4\frac{1}{2}$	.28125
37	$\frac{17}{2560}$	.00640625	$4\frac{1}{4}$	.265625
38	$\frac{1}{160}$	.00625	4	.25
39	$\frac{15}{2560}$	.005859375	$3\frac{3}{4}$	.234375
40	$\frac{7}{1280}$	.00546875	$3\frac{1}{2}$	.21875
41	$\frac{27}{5120}$	.0052734375	$3\frac{3}{8}$	.2109375
42	$\frac{13}{2560}$	.005078125	$3\frac{1}{4}$	.203125
43	$\frac{23}{5120}$	.0048828125	$3\frac{1}{8}$	.1953125
44	$\frac{1}{640}$	.0046875	3	.1875

Weight of Square and Round Bars of Steel

In Pounds Per Linear Foot

Based on 489.6 lbs. per cubic foot.

For Wrought Iron deduct 2 per cent. For High-Speed Steel add 11 per cent.

Thickness or Diameter, Inches	Weight of Square Bar 1 foot long	Weight of Round Bar 1 foot long	Thickness or Diameter, Inches	Weight of Square Bar 1 foot long	Weight of Round Bar 1 foot long
$\frac{1}{32}$	.0033	.0026	3	30.60	24.03
$\frac{1}{16}$	.0133	.0104	$3\frac{1}{8}$	33.20	26.08
$\frac{1}{8}$	.0531	.0417	$3\frac{1}{4}$	35.92	28.20
$\frac{3}{16}$	.1195	.0938	$3\frac{3}{8}$	38.73	30.42
$\frac{1}{4}$	.2123	.1669	$3\frac{1}{2}$	41.65	32.71
$\frac{5}{16}$	.3333	.2608	$3\frac{5}{8}$	44.68	35.09
$\frac{3}{8}$	.4782	.3756	$3\frac{3}{4}$	47.82	37.56
$\frac{7}{16}$	.6508	.5111	$3\frac{7}{8}$	51.05	40.10
$\frac{1}{2}$	.8500	.6676	4	54.40	42.73
$\frac{9}{16}$	1.076	.8449	$4\frac{1}{4}$	61.41	48.24
$\frac{5}{8}$	1.328	1.043	$4\frac{1}{2}$	68.85	54.07
$\frac{11}{16}$	1.608	1.262	$4\frac{3}{4}$	76.71	60.25
$\frac{3}{4}$	1.913	1.502	5	85.00	66.76
$\frac{13}{16}$	2.245	1.763	$5\frac{1}{4}$	93.72	73.60
$\frac{7}{8}$	2.603	2.044	$5\frac{1}{2}$	102.8	80.77
$\frac{15}{16}$	2.989	2.347	$5\frac{3}{4}$	112.4	88.29
1	3.400	2.670	6	122.4	96.14
$1\frac{1}{16}$	3.838	3.014	$6\frac{1}{4}$	132.8	104.3
$1\frac{1}{8}$	4.303	3.379	$6\frac{1}{2}$	143.6	112.8
$1\frac{1}{4}$	4.795	3.766	$6\frac{3}{4}$	154.9	121.7
$1\frac{3}{8}$	5.312	4.173	7	166.6	130.9
$1\frac{1}{2}$	5.857	4.600	$7\frac{1}{4}$	178.7	140.4
$1\frac{3}{4}$	6.428	5.019	$7\frac{1}{2}$	191.3	150.2
$1\frac{7}{8}$	7.026	5.518	$7\frac{3}{4}$	204.2	160.3
$1\frac{1}{2}$	7.650	6.008	8	217.6	171.0
$1\frac{5}{8}$	8.301	6.520	$8\frac{1}{4}$	231.4	181.8
$1\frac{3}{2}$	8.978	7.051	$8\frac{1}{2}$	245.6	193.0
$1\frac{11}{16}$	9.682	7.604	$8\frac{3}{4}$	260.3	204.4
$1\frac{3}{4}$	10.41	8.178	9	275.4	216.3
$1\frac{13}{16}$	11.17	8.773	$9\frac{1}{4}$	291.1	228.5
$1\frac{7}{8}$	11.95	9.388	$9\frac{1}{2}$	306.8	241.0
$1\frac{15}{16}$	12.76	10.02	$9\frac{3}{4}$	323.2	253.9
2	13.60	10.68	10	340.0	267.0
$2\frac{1}{8}$	15.35	12.06	$10\frac{1}{4}$	357.2	280.6
$2\frac{1}{4}$	17.22	13.52	$10\frac{1}{2}$	374.9	294.4
$2\frac{3}{8}$	19.18	15.07	$10\frac{3}{4}$	392.9	308.6
$2\frac{1}{2}$	21.25	16.69	11	411.4	323.1
$2\frac{5}{8}$	23.43	18.40	$11\frac{1}{4}$	430.3	337.9
$2\frac{3}{4}$	25.00	20.20	$11\frac{1}{2}$	449.6	353.1
$2\frac{7}{8}$	26.10	22.07	$11\frac{3}{4}$	469.4	368.6

To compute the weight of Sheet Steel:

Multiply the thickness by 40.8; the result is the weight in pounds per square foot.

Example: A piece of Sheet Steel is .005" thick, its weight is $.005 \times 40.8 = .204$ lbs. per square foot.

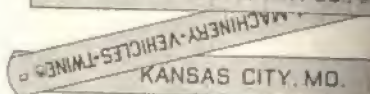
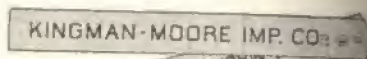
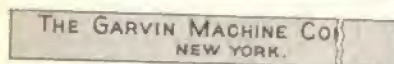
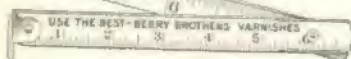
To compute the weight of Sheet Iron:

Multiply the thickness by 40; the result is the weight in pounds per square foot.

Example: A piece of Sheet Iron is .005" thick, its weight is $.005 \times 40 = .200$ lbs. per square foot.

LUFKIN

Advertising Tapes and Rules



The following Articles, bearing customers advertisement, in the manner shown above, appear in our separate

ADVERTISING SPECIALTY CATALOG

Pocket Steel and Linen Tapes.

Steel Tape-Rules.

Folding Wood Rules.

Folding Steel Rules.

Steel Scales.

Remembrance Advertising is the most effective, direct and lasting publicity. Our Tapes and Rules lend themselves especially well to this purpose. They have great appeal to recipient and advertiser, because:

They are very useful, and offered in patterns and graduations to nicely fit any line of business.

They are durable and bear imprint in a permanent manner, therefore prove a lasting advertisement.

They are neat and compact, easy to carry always.

Advertisement, be it lettering or trade-mark or both, appears attractively yet does not interfere with use.

They are high grade, fine appearing, create a quality impression, yet are moderate in price.

They are always suitable, appropriate to pass out at conventions, at holiday seasons, or throughout the year.

But a few of the items in our Advertising Specialty Line are here shown. If you might distribute such a reminder or good will token or could interest any of your customers in so doing, please write for details and

Advertising Specialty Catalog

Alphabetical Index

ARTICLE	PAGE
Adjustment of Micrometers	140, 152
Advertising Goods	249
"All Stainless Crescent"	
Tape-Rule	80
All Stainless "Wizard Jr."	
Tape-Rules	83
Aluminum Rules	99, 99-A
"Anchor" Chrome Face Tapes	62-B, 62-C
Apprentice Sets	222, 223
Architects Scale Tapes	60
"Aristocrat" Tape-Rules	81
Arrows	51
"Artisan" Steel Tapes	18, 56, 57
Ass Skin Tapes	74
"Atlas" Chrome Face Tapes	62-E
"Atlas" Gaging Tapes	33, 62-E
Attachment, Combination Square	183
Automatic Center Punch	220-A
Babbitt Metal Tapes	46
Ball Attachments, Micrometer	167
"Banner" Calipers & Dividers	196, 197
"Banner" Steel Tapes	14
Barrel Gaging & Wantage Rods	128
Bench Rules	120, 135, 230
Bevel Protractors	181
Bevel, Ship Carpenters	106
Bevels, Universal	193
Biltmore Stick	117
Blacksmiths Rules	132, 134
Blades, Combination Square	180, 182
Blindmans Rules	103
Boards, Glass Cutting	129
Board Rules, Hickory	108-111
Board Rule, Steel	111
Bobs, Plumb	42
Boot Calks	118
Boot Calk Sets & Punch	118
Box, Tool	234-A
Boxwood Caliper Rules	104-106
Boxwood Rules	100-106
Boxwood Shrink Rules	121
Brass Rules	134, 135
Caliper, Log	115
Caliper Rules, Boxwood	104-106
Calipers & Dividers	194-201
Calipers, Micrometer	139-169-B
Calipers, Pocket Slide	202-203
Calks, Boot	118
Calk Sets & Punch	118
"Canyon" Chain Tapes	47
Care of Steel Tapes	62-M
Carpenters Try & Miter Squares	134-A
Carrying Ring for Arrows	51
Cases:	
Display	235
Indicator	188-C
Micrometer	165-A, 165-B
Planer Gage	189
Pocket Slide Caliper	202
Rule	227
Solid Square	188-A
Tool	234-A
Center Gages	190
Center Punches	220, 220-A
Chain Tapes	43-B-48

ARTICLE	PAGE
"Challenge" Steel Tapes	9, 10, 17
"Challenge Jr." Steel Tapes	12
Chest, Tool	234-A
Chrome Face Gaging Tapes	62-E-62-I
Chrome Face Steel Tapes	62-A-62-L
Circumference Gage	203
Circumference Rules	134, 136
Clamp Handle	53
Clamps, Rule	183, 224
Clamps, Toolmakers Parallel	217
Clamps, V Block & Parallel	216, 217
Combination Level Rules	103
Combination Sets	178, 179
Combination Squares	176-180
Combination Square Parts	182
Contraction Rules	121, 233
Counter Rules, Brass	135
Crayon Holder	117
"Crescent" Tape-Rules	70, 80
"Crescent Jr." Tape-Rules	79
"Cripple Creek" Reel	50
Cruiser Stick	117
Curve Sticks, Tailors	123
Cutting Boards, Glass	129
Data on Steel Tapes	4, 43-B, 62-M-64-A
Data Tables	236-248
Data on Woven Tapes	65
Decimeter Rule	234
Depth Gages, Micrometer	170, 171
Depth Gages, Rule & Rod	172-174
"Derrick" Steel Tapes	43-A
"Dial" Tapes	75
Diameter Tapes	17, 18, 56, 61, 62
Die Makers Squares	187
Dip Rod	117
Display Cases	235
Dividers	194, 196
Dividers & Calipers	194-201
"DoNut" Tape-Rule	85
Double Squares	184, 186
Dressmakers Squares	124, 125
Dressmakers Tapes	126
Drill Grinding Gage	185
Drive Pin Punches	219
End Fasteners, Tape	16, 67
Engineers Pattern Tapes	19-28
Engineers Rules, Folding	92, 93,
	99-A, 101, 133
"Eureka" Repair Sleeves	55
Extension Rules, Folding	95
Extension Rules, 2-Piece	121
Extension Tape-Rule	85-A
Feeler Gages	208-212-A
Feeler Stock Assortment	212, 212-A
Feeler Stock "Universal"	212, 212-A
Fillet Gages	206, 207
Firm Joint Calipers	198-200
Flat Wood Rules	120
Flexible-Rigid Tape-Rules	78-85-B
Folding Aluminum Rules	99, 99-A
Folding Steel Rules	132, 133
Folding Wood Rules	85-C-98,
	100-106, 116
Forest Cruiser Stick	117

ALPHABETICAL INDEX—Continued

ARTICLE	PAGE
Foresters Tree Tapes.....	18
Frame Steel Tapes.....	24-40, 62-E—62-L
Freight Rules.....	128

Gages:

Center.....	190
Circumference.....	203
Depth.....	170-174
Drill Grinding.....	185
Feeler.....	208—212-A
Fillet.....	206, 207
Lumber.....	118
Paper.....	144
Planer.....	188-D, 189
Radius.....	206, 207
Screw Pitch.....	213
Shaper.....	188-D, 189
Surface.....	214, 214-A, 215
Telescoping.....	204, 205
Thickness.....	208—212-A
Type.....	134-B
Gaging Rod.....	128
Gaging Tapes.....	33-41, 62-E—62-I
Gaging Tapes, Chrome Face.....	62-E—62-I
Gaging Tape Wiper.....	43
Geological Survey Reel.....	49
Glass Boards "Perfection".....	129
Glass Cutters Rules.....	130
Glass Cutters Squares.....	131
Glaziers Rules.....	130
Graduations, Chain Tape.....	43-B
Graduations, Special Tape.....	63, 65
Graduations, Steel Rule.....	224

Handling of Steel Tapes.....	62-M
Hardwood Rules, Lumber.....	109
Heads, Micrometer.....	166
Height Gage Attachments, Micrometer.....	167
Hermaphrodite Calipers.....	200
"Hi-Way Drag" Tapes.....	44
Hold Downs.....	220-B
Holder, Radius Gage.....	207
Holder, Steel Rule.....	221
Hook-Rings, Tape.....	16, 62-B, 62-D, 67
Hook Rule, Blacksmiths.....	134
Hook Rules, Spring Joint.....	87, 88, 91
Hook Rules, Steel.....	230, 231
Hook Stave Rule.....	106
Hook Tapes, Steel.....	16, 18, 57, 62-B, 62-D
Hook Tapes, Woven.....	67
Hook Type Rules or Gages.....	134-B
Hooks, Steel Tape.....	16, 52, 62-B, 62-D
Hooks, Woven Tape.....	67

Indicator.....	188-B, 188-C
"Instantaneous" Readings, Tape.....	4, 65

"Junior Metallic" Tapes.....	69
------------------------------	----

Kits, Tape Repair.....	54, 55
------------------------	--------

"L" Squares, Glass Cutting.....	131
"Leader" Chrome Face Tapes.....	62-D
Leather Cases:	
Micrometer.....	165-A, 165-B
Pocket Slide Caliper.....	202

ARTICLE	PAGE
Leather Cases, Continued:	
Steel Rule.....	227
Level & Protractor Rules.....	193
Linen Corded Tapes.....	72, 73, 75
Lip Rules, Glass.....	130
Lock Handle Frame Tapes.....	25-27, 30,
31, 33-36, 38-40, 62-E—62-I, 62-K, 62-L	
Log Caliper.....	113
Log Rules.....	111-115
Log Rule, Spring Joint.....	116
Lumber Gages.....	118
Lumber Rules.....	107-116
Lumber Rules, General Information.....	107, 116

Machinists Tools.....	138-244
"Magic" Pattern Rule.....	137
Manual Training Rules.....	106, 120, 135
Marking Stick.....	117
"Marvel" Linen Tapes.....	77
"Marvel" Steel Tapes.....	59
Master Planer Gage.....	188-D, 189
Measuring Tapes.....	4-77
Merritt Hypsometer.....	117
"Metallic" Tapes.....	66-69, 71
Meter Sticks.....	127
"Mezurall" Printers Tape-Rules.....	85-B
"Mezurall" Tape-Rules.....	84, 84-A
"Michigan" Chain Tapes.....	46
Micrometers.....	139-169-B
Micrometer Ball Attachments.....	167
Micrometer Calipers.....	139-169
Direct Indicating.....	145
Inside.....	168-169-B
Interchangeable Anvil.....	163
Millmens.....	150-151-A
Outside.....	142-165
Paper Gage.....	144
Screw Thread.....	164
Stainless Steel.....	159-A, 159-B
Thread Comparator.....	165
Tubing.....	143, 167
Wood Handle.....	151, 151-A
Micrometer Cases.....	165-A, 165-B
Micrometer Depth Gages.....	170, 171
Micrometer Heads.....	166
Micrometer Sets.....	160-162
Micrometers, General Information.....	139-141
Millmens Micrometers.....	150—151-A
Millmens Steel Tapes.....	57
Miscellaneous Wood Rules.....	120-130
"National" Spring Joint Rules.....	94
Newspaper Rule.....	134-B
"Nubian" Finish.....	4

Oil Gaging Tapes.....	33-41, 62-E—62-I
Outage Plumb Bob.....	42

Parallel Clamps.....	217
Pattern Rule, "Magic".....	137
"Perfection" Glass Boards.....	129
Pins (Arrows).....	51
"Pioneer" Chain Tapes.....	45
Planer Gage.....	188-D, 189
Plumb Bobs.....	42

ALPHABETICAL INDEX—Continued

ARTICLE	PAGE	ARTICLE	PAGE
Plumb Bob Tapes	33-41, 62-E—62-I	Rules, Continued:	
Plumbers Spring Joint Rule	96	English-Metric, Steel	230
Pocket Linen Tapes	76, 77	Extension	95, 121
Pocket Rules, Folding Steel	132, 133	Flat Wood	120
Pocket Slide Calipers	202, 203	Flexible, Steel	227-229
Pocket Steel Tapes	58-62	Freight	128
Pole & Pole Line Tapes	62, 71	Glass Cutters & Glaziers	130
Precision Tools	138-234	Heavy, Steel	230
Printers Rules	134-B	Hook, Spring Joint	87, 88, 91
Printers Tapes	60, 85-B	Hook, Steel	230, 231
Printers Tape-Rules	85-B	Level & Protractor	103
Protractors	191, 192	Log	112-116
Protractors, Bevel	181	Lumber	108-116
Punch, Repair	55	"Magic" Pattern	137
Punches, Center & Drive Pin 219, 220, 220-A		Manual Training	106, 120, 135
Quiver for Arrows	51	Metric, Steel	132, 133, 232
Racks, Solid Square	188-A	Metric-English, Spring Joint	94, 97, 98
Radius Gages	206, 207	Metric-English, Steel	132, 133, 232
Radius Gage Holder	207	Narrow, Spring Joint	94
Railroad Tapes, Babbitt "Michigan"	46	Narrow, Steel	226
Railroad Tapes, "Hi-Way Drag"	44	"National"	94
Railroad Tapes, Linen Corded	72, 73	Plumbers	96
Reading of Micrometers	139	Printers	134-B
"Red End" Rules 85-C, 88, 89, 90, 93, 96, 97		"Red-End" 85-C, 88, 89, 90, 93, 96, 97	
Reels, Chain Tape	40, 50	"Rugged"	95
Reference Tables, Data	236-248	Semi-Flexible, Steel	226, 229
Reference Tables, Steel	234	Sets with Holder	221
Refills, "Metallic" Tape	68, 69	Shrink, Boxwood	121
Refills, Steel Tape	32	Shrink, Steel	233
"Reliable" Steel Tapes	5-7	Spring Joint	85-C—98, 116
"Reliable Jr." Steel Tapes	8	Stainless Steel	228
Repair Kits, Steel Tape	54, 55	Steamfitters	96
Repair Sleeves, Tape	55	Steel	225-234
Right Angle Rule Clamp	183	Tailors	122-127
"Rival" Steel Tapes	13	Tape	78—85-B
"Rival Jr." Steel Tapes	13	Tinners	136, 137
"Rugged" Spring Joint Rule	95	"Two-Way"	89
Rule Case, Pocket	227	Type	134-B
Rule Clamps	183, 224	"Universal"	94
Rule Holder	221	Scales, Steel	225-234
Rule Set	221	Screw Adjusting Firm Joint Calipers	199
Rules, Board & Log	107-116	Screw Drivers, Pocket	219
Rules, Boxwood	100-106	Screw Pitch Gages	213
Rules, Folding:		Scribers	218
Aluminum	99, 99-A	Sets, Micrometer	160-162
Boxwood	100-106	Sets, Students	222, 223
Brass	134	Shaper Gage	188-D, 189
Extension	95	Ship Carpenters Bevel	106
Spring Joint	85-C—98, 116	Shoe Size Sticks	127
Steel	132, 133	Shoulders, Chain Tape	48
Rules:		Shrink Rules, Boxwood	121
Aircraft	229	Shrink Rules, Steel	233
"Allen" Improved	230	Shrinkage of Castings	121, 233
Aluminum	99, 99-A	Size Sticks, Shoe	127
Beveled, Steel	228	Sleeves, Tape Repair	55
Blacksmiths	132, 134	Slope Correction Tape	48
Blindmans	103	Solid Steel Squares	188-A
Board	108-111	Special Graduations, Tapes	63, 65
Boxwood	100-106	Spoke Caliper Rule	106
Brass	134, 135	Spring Joint Rules	85-C—98, 116
Caliper, Boxwood	104-106	Spring Joint Rules, Narrow	94
Counter	135	Squares:	
Engineers	92, 93, 99-A, 101, 133	Combination	175-180
English-Metric, Spring Joint	94, 97, 98	Die Makers	187
		Double	184, 186

ALPHABETICAL INDEX—Continued

ARTICLE	PAGE	ARTICLE	PAGE
Squares, Continued:		Tapes, Continued:	
Glass Cutters, L & T	131	Tailors	128
Solid Steel	188-A	Topographic Trailer	43
Tailors & Dressmakers	124, 125	Tree	18
Thin Steel	188	Type	60, 85-B
Try & Miter	134-A	Woven	65-77, 128
Standards and Standardization, Tape	64	Tapes, Measuring	4-77
Stainless Steel Micrometers	159-A, 159-B	Tapes, Steel, Brands	4-64-A
Stainless Steel Rules	228	"Anchor"	62-B, 62-C
Stainless Steel Tapes	11 & Footnotes	"Artisan"	18, 56
Stainless Steel Tape-Rules	80, 83, 84	"Atlas"	33, 62-E
Steel Rules	132, 133, 135-137,	"Banner"	14
	221, 224-234	"Canyon"	47
Steel Rules, Folding	132, 133	"Challenge"	9-11, 17, 18
Steel Scales	225-234	"Challenge Junior"	12
Steel Tapes, General Information	4, 43-B, 62-M-64-A	"Derrick"	43-A
Steel Tapes	4-64-A	"Hi-Way Drag"	44
Steel Tape-Rules	78-85-B	"Leader"	62-D
"Sterling" Linen Tapes	70	"Marvel"	50
Strapping Tapes	43	"Michigan"	46
Students Sets	222, 223	"Pioneer"	45
Surface Gages	214, 214-A, 215	"Reliable"	5-7
Surveyors Arrows	51	"Reliable Junior"	8
Surveyors Chain Tapes	43-B-48	"Rival"	13
		"Rival Junior"	13
"T" Squares, Glass Cutting	131	"Universal"	15
Tables (data)	236-248	"Western"	27
Tailors Measuring Sticks	122, 123	"Wolverine"	21-23
Tailors Squares	124, 125	Tapes, Woven, Brands	65-77
Tailors Tapes	126	"Ass Skin"	74
Tank Gaging Tapes	33-41, 62-E-62-I	"Dial"	75
Tank Strapping Tapes	43	"Junior Metallic"	69
Tape Hooks	16, 52, 62-B, 62-D, 67	"Marvel"	77
Tape Repair Kits	54, 55	"Metallic"	66-68, 71
Tape Ring, Engineers	51	"Sterling"	70, 71
Tape-Rules	78-85-B	"Universal"	72, 73, 77
Tape-Rules, Brands:		Telescoping Gages	204, 205
"All Stainless Crescent"	80	Temperature Scale	53
"All Stainless Wizard Jr."	83	Tension Handle	53
"Aristocrat"	81	Test Indicator	188-B, 188-C
"Crescent"	79	Thermometer Scale	53
"Crescent Junior"	79	Thickness Gages	208-212
"DoNut"	85	Thickness Gage Leaves Only	211
"Mezurall"	84, 84-A	Thickness Gage Stock	211, 212, 212-A
"Wizard"	82	Thin Steel Squares	188
"Wizard Junior"	83	Thongs, Chain Tape	48
Tape Threader	65	Thread Calipers	201
Tape Wiper	43	Threader, Tape	65
Tapes:		Tinners Rules	136
Architects, Scale	60	Tool Chest (or Box)	234-A
Chain	44-48	Toolmakers Calipers, Dividers	194, 195
Chrome Face	62-A-62-L	Toolmakers Parallel Clamps	217
"Derrick"	43-A	Toolmakers Surface Gages	215
Diameter	17, 18, 56, 61, 62	Tools, Machinists	138-234
Engineers Pattern	19-28	Tools, Precision	138-234
Frame Steel	24-40, 62-E-62-L	Topographic Trailer Tape	48
Gaging	33-41, 62-E-62-I	Trailer Tape	48
Metallic	66-69	Tree Tapes	18
Millmens	57	Try & Miter Squares	134-A
Oil Gaging	33-41, 62-E-62-I	"Two-Way" Red End Rule	80
Pocket	58-62, 76, 77	Type Rules	134-B
Pole	62	Type Tape-Rules	85-B
Printers	60, 85-B	Type Tapes	60, 85-B
Stainless Steel	11 & Footnotes		
Steel	4-64	"Universal" Feeler Stock	212, 212-A
		"Universal" Indicator	188-B, 188-C

ALPHABETICAL INDEX—Continued

ARTICLE	PAGE	ARTICLE	PAGE
"Universal" Pocket Tapes.....	77	"Western" Steel Tapes.....	27
"Universal" Spring Joint Rules.....	94	Wiper, Gaging Tape.....	43
"Universal" Steel Tapes.....	15	"Wizard" Tape-Rules.....	82
Universal Surface Gages..... 214, 214-A, 215		"Wizard Jr." Tape-Rules.....	83
"Universal" Try & Miter Squares..... 134-A		"Wolverine" Steel Tapes.....	21-23
"Universal" Woven Tapes.....	72, 73	Wood Rules, Folding 85-C-98, 100-106, 116	
Y Blocks & Clamps.....	216	Woven Tapes, General Information..	65
Vertical "Red End" Rules.....	90	Woven Tapes.....	65-77, 126
Wantage Rod.....	128		

Yard & Yard & Quarter Sticks..... 122

Numerical Index

Letter suffixes of stock numbers (such as D, ME, and others) are not all shown in this index. Items having numbers with letter suffixes and not here shown will be found on the page here appearing opposite the number. For example: Tape No. 260D is on page indicated for stock No. 260, etc.

NUMBER	PAGE	NUMBER	PAGE	NUMBER	PAGE
0, 00, 000, 000L Calks.....	118	1 Calk.....	118	25C.....	177
0, 00, 000 Calk Sets.....	118	1 Calk Set.....	118	26A, 26B, 26C.....	184
00, 000 Lumber Gages.....	118	1 Board Rule.....	108	26D, 26E.....	185
01, 01N.....	109	1 Students Set.....	222	27-30.....	115
02, 02N, 02XN, 02VN.....	109	1, 1-P Pole Tapes.....	62	34V, 34½V, 34¾V.....	120
D-03.....	75	1N, 1XN.....	108	35.....	176
05.....	182	2 Calk.....	118	35C.....	177
06 Protractor.....	182	2 Students Set.....	223	36, 37.....	190
06 Thickness Gage.....	208	2 Board Rule.....	108	38P, 38PD.....	62
08, 08N.....	109	2N, 2XN.....	108	40.....	196
010, 011.....	166	2½.....	108	41, 42 Caliper.....	197
0112CH-0125CH.....	57	3 Calk.....	118	42 Bevel.....	106
030, 031.....	166	3 Board Rule.....	108	44, 45.....	201
036, 037.....	190	5.....	181	46.....	95
046.....	106	6.....	181	X-46, HX-46.....	95
047.....	106	7.....	118	48.....	100
051ME, 052ME, 054EM	97	8 Board Rule.....	110	50 Board Rule.....	110
051MEB, 052MEB,		8 Clamp.....	224	50 Divider.....	196
054EMB.....	97	9, 9A.....	167	51, 52 Caliper.....	197
054-058.....	88	10 Board Rule.....	110	52 Board Rule.....	111
056D.....	93	10 Feeler.....	212	D-53.....	75
H-056.....	88	11, 12.....	198	55.....	117
061ME, 062ME, 064EM	97	13, 13½.....	111	60.....	135
064-068.....	88	14.....	112	61.....	50
066D.....	93	15 Log Rule.....	112	62.....	135
H-066.....	88	16 Ball.....	167	65, 65L.....	134-A
066F.....	93	16 Log Rule.....	112	V-66, V-66F.....	90
0400-0407.....	70	16½.....	113	66, 67.....	193
0500-0507.....	68	17, A-17.....	200	71AA, 71A-71E, 71S.....	220
0660-0663.....	69	18A, 18B.....	183	72A-72H, 72S.....	219
01406, 01407.....	71	19.....	167	73A-73D.....	213
01506, 01507.....	71	20 Holder.....	207	74A-74D.....	213
02100 Series.....	46	20, 20S Rules.....	221	77A-77E.....	206, 207
03100-03500.....	46	21 Log Rule.....	113	79AA, 79A-79E.....	204, 205
04100-04500.....	47	21, 22 Calipers.....	199	79L, 79M.....	205
05100-05500.....	45	22, 22½ Log Rules.....	113	80.....	132
05165T.....	48	25 Log Caliper.....	115	80A, 80B.....	169B
09100-09300.....	44	25 Square.....	116		49

NUMERICAL INDEX—Continued

NUMBER	PAGE	NUMBER	PAGE	NUMBER	PAGE
81C, 81D	169B	233-236	19	513, 515	179
83A-83Y	233	233X-236X	20	520A, 520B, 520C	204
83M, 83MM	233	240-246	13	521A, 521B, 521C	211
85	132	C250-C256	62D	522A, 522B, 522C	214-A
86	132	252	52	524	216
87A, 87B	218	260C, 263C	17	525	179
88A, 88B	218	260-267	9	535	179
95, 96	136	S-260—S-266	11	540-546	179
97½, 98, 99	234	261P, 263P	17	550	18
100-103	8	261TP, 263TP	18	551 Hook	52
108	56	273-278	24	551 Tape	14
109, 109M	208	280-283 with 588	37	552, 552½	52
109T, 109TM, 110T	209	280-283 with 589	37	553-556	16
110	212-A	280-283 with 590	39	S-570	134-B
111	150	C280-C283 with 588	62H	571, 572, 573	134-B
112	56	C280-C283 with 590	62I	S575	134-B
112CH-125CH	57	281ME-283ME with 588,		576 Kit	54
S-112CH	57	with 589 and		576 Rule	94
115	56	with 590	40	577	55
116M	208	283-288	29	580	51
120	56	C283, C285, C286	62J	584	53
120TP	18	290-293 with 588	35	586	53
121	150	290-293 with 589	35	587-590	42
121H	151	290-293 with 590	34	591-597	51
122	210	C290-C293 with 588	62G	599	33-40, 43
126, 126T	210	C290-C293 with 590	62F		
135, 135C	180	291ME-293ME with 588,		600-606	66
136	190	with 589 and with 590	40	610	142
137A-137C, 137N	186	300-306	6	611	146
138A-138C, 138CX, 138N	187	308T	211	611B	151
139	188	C310-C316	62C	611T, 612T	164
140	194	341-346	7	612	148
141, 142	195	353, 356	7	620	142
143A, 143T	60	360-367	10	621	146
143P-146P (PD)	61	S-360—S-366	11	621B	151
143-148	58	372	105	622	148
165	77	381	234-A	625	179
166	188-A	386	104	626	96
171	104	388	104	630	142
172	104			631	146
173-176	76	391-393	60	632	148
181A-184A	161			635	179
181C-184C	161	400-407	70	640	142
186, 186D, 186EM	81	450, 450F	94	641	146
187A, 187B	219	453-456	202	642	148
188	76	S-453, S-455	203	643P, 645P	61
191A-194A	161	455P	203	651	100
191C-194C	161	460, 460F	94	660-663	69
191D, 191E	162	471-473	126	671-673 and A	126
192D, 192E	162	491-493	126	676	94
199, 199-A	188B, 188-C			680A, 680B	168
		500-507	67	680A-M, 680B-M	169
200-207	5	508A-508C	174	681C, 681D, 681K	168
208T	211	509A-509E	174	681C-M, 681D-M,	169
C210-C216	62B	510	172	681K-M	85-A
212	171	511	173	X-686	85-A
H-224	231	512	172	686T, 686TA	52
				686, 686D, 686EM, 688	

NUMERICAL INDEX—Continued

NUMBER	PAGE	NUMBER	PAGE	NUMBER	PAGE
691-693 and A.	126	C1280-C1283 with 588.	62H	1824-1826	155
696, 696D, 696EM	79	C1280-C1283 with 590.	62I	1831-1833	153
S-696, S-696D,		1281ME-1283ME with		1834-1836	155
S-696EM	80	588, with 589 and		1841-1843	153
		with 590.	40	1844-1846	155
703	106	1283-1286	30	1911-1916	157
710-716	74	C1283, C1286	62K	1911C	165
730-736	73	1290-1293 with 588.	36	S-1911—S-1919	159-B
733R	73	1290-1293 with 589.	36	1914	49
751	100	1290-1293 with 590.	34	1917-1919	159
752B	103	1290S-1294S with 590.	33	191-10, 191-11, 191-12	159
761	100	C1290-C1293 with 588.	62G	S-191-10, S-191-11,	
780, 781	101	C1290-C1293 with 590.	62F	S-191-12	159-B
781C	105	C1290S-C1293S with		1921-1926	157
		590	62E	S-1921—S-1929	159-B
824A, 824AX, 824A-M	163	1291ME-1293ME with		1927-1929	159
826A, 826A-M	163	588, with 589 and		192-10, 192-11,	
844A, 844AX, 844A-M	163	with 590	40	192-12	159
846A, 846A-M	163	1291SME-1294SME		S-192-10, S-192-11,	
851	100	with 590	40	S-192-12	159-B
861, 861A	101	1293-1296	31	1931-1936	157
862C	105	C1293, C1296	62L	1941-1946	157
863L	103	1306D, H-1306D	99-A		
873L	103	1373-1379	21	2010	221
881, 881D	101	1373X, 1376X	22	2100 Series Tapes	46
890, 891	191	1376XX	23	2100M, 2100ME Rules	232
892, 893	192	1406, 1407	71	2103R, 2105R	229
		1506, 1507	71	2110, 2110R	227
900	188D, 189	1512	58	S-2110R	228
902A-902E	220-B	1512CH, 01512CH	57	2111R	227
905	216	1512P	61	2112	227
910A-910F	217	1576XX	28	2183E, 2183F	233
920BH, 921BH	151A	1604-1606	114	2200M, 2200ME	232
926, 928, 926B, 928B,		1610	142	2201, 2202	225
926EM, S-926	84	1611	147	2204, 2204R	225
926T, 926TA	85-A	1612	149	H-2204R	231
940-946	72	1620	142	S-2204R	228
966	89	1621	147	2207R	225
H-966	89	1622	149	2224	228
986	85	1630	142	2227	228
		1631	147	2273, 2276	43-A
1063	134	1632	149	2300M, 2300ME	232
1068, 1069	135	1640	142	2310, 2311	226
1085, 1086	134	1641	147	H-2310	231
1141-1143	133	1641DI, 1641V-DI	145	2404	230
1163ME	133	1642	149	H-2404	230
1172-1178	132	1671A	220-A	2504, 2504R, S-2504	182
1204-1206, 1206F	99	1686, 1688, 1686D,		2507	182
1204EM, H-1204EM	99-A	1686EM	83	2516, 2516R	182
H-1206	99	S-1686, S-1686D,		2583E, 2583F	182
1240-1243	13	S-1686EM	83	2603R	229
1260-1263	12	1696, 1696D, 1696EM	79	2604R	226
1273-1278	25	1705, 1706	114	2607R	226
1273X-1278X	26	S-1800 Series		2608	230
1276XX-1278XX	27	(Footnote)	159-B	2610, 2611	143
1280-1283 with 588	38	1811-1813	153	2630, 2631	143
1280-1283 with 589	38	1814-1816	155		
1280-1283 with 590	39	1821-1823		ROSE TOOLS, INC.	143

NUMERICAL INDEX—Continued

NUMBER	PAGE	NUMBER	PAGE	NUMBER	PAGE
3050, 03050.....	46	4601ME.....	94	7511ME, 7512ME.....	98
3066, 03066.....	46	4603, 4604.....	94	7511MEB.....	98
3082M, 03082M.....	46	4642-4644.....	133	7611ME, 7612ME.....	98
3100, 03100.....	46	4883.....	102		
3100M, 03100M.....	46			8120.....	127
3132, 03132.....	46	5050, 05050.....	45	8130-8135.....	124
3143-3146.....	59	5066, 05066.....	45	8142, 8143.....	125
3150, 03150.....	46	5082M, 05082M.....	45	8147ME, 8148ME.....	125
3164M, 03164M.....	46	5100, 05100.....	45	8151, 8152.....	123
3173-3176.....	77	5100M, 05100M.....	45	8203-8209.....	121
3200, 03200.....	46	5132, 05132.....	45	8221, 8223.....	127
3227.....	230	5150, 05150.....	45	8231-8238.....	124
3300, 03300.....	46	5164M, 05164M.....	45	8241.....	124
3328M, 03328M.....	46	5165T, 05165T.....	48	8246.....	125
3500, 03500.....	46	5200, 05200.....	45	8248ME.....	125
3610, 3630.....	144	5300, 05300.....	45	8514-8516.....	91
3752B.....	103	5328M, 05328M.....	45	8514EMB.....	98
3851.....	102	5330, 05330.....	45	8523-8528.....	91
3861.....	102	5500, 05500.....	45	8524F-8526F.....	92
3881.....	102			8524EM-8526EM.....	98
		6801D.....	168	H-8525—H-8528.....	91
		6801DM.....	169	8614-8616.....	91
		6810.....	82	8623-8628.....	91
4066, 04066.....	47			8624F-8626F.....	92
4082M, 04082M.....	47	7030, 7031.....	123	8624EM, 8626EM.....	98
4100, 04100.....	47	7111ME, 7112ME and		H-8625—H-8628.....	91
4100M, 04100M.....	47	MM.....	127		
4132, 04132.....	47	7116.....	122		
4141-4144.....	133	7121-7129.....	122	9050, 09050.....	44
4150, 04150.....	47	7131-7135.....	120	9100, 09100.....	44
4164M, 04164M.....	47	7131 $\frac{1}{2}$ -7135 $\frac{1}{2}$	120	9150, 09150.....	44
4200, 04200.....	47	7136-7140.....	130	9200, 09200.....	44
4300, 04300.....	47	7141-7149.....	130	9300, 09300.....	44
4328M, 04328M.....	47	7154-7156.....	128	9525D, 9526D.....	92
4330GL, 04330GL.....	47	7162-7166.....	121	9526.....	92
4500, 04500.....	47	7181, 7188.....	128	9625D, 9626D.....	92
4501ME.....	94	7422.....	122	9626.....	92
4503, 4504.....	94				

